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AND BEYOND

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ETAH AND BEYOND

OR

Life within Twelve Degrees of the Pole

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Donald B. MacMillan

ETAH AND BEYOND

OR

Life within Twelve Degrees of the Pole

BY

DONALD BAXTER MacMILLAN

WITH ILLUSTRATIONS FROM
PHOTOGRAPHS BY THE AUTHOR

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TO

MY GOOD FRIENDS

WHO HELPED ME BUILD

THE BOWDOIN

AND THUS MADE MY ARCTIC WORK

POSSIBLE

158747

PREFACE

It is natural for man to wonder what lies beyond the mountain-peaks, what strange and interesting things may be below the encircling horizon. Without this incentive there can be but little progress. True, dreams of untold wealth, of Eldorados, of waters potent with eternal life, of lotus lands free from care, of a life of happiness, have all driven men on into the unknown; but man's inborn desire to seek, to know, has been the dominant factor in the exploration of the world, no section of which has proved more attractive than the North with its far-stretching, grinding ice fields, its eternal, snow-capped peaks, its encircling sun and stars, its strange forms of animal life and its swarthy, square-faced aborigines.

The Bowdoin, built especially for Arctic work, had returned from her maiden trip. She had proved quite conclusively that a small wooden ship of the right model and right construction is in many ways better than a steel ship. She had penetrated successfully the ice-packed waters of Fox Channel, had gone far beyond the Spicer Islands, had cruised along the west coast of Baffin Land, the first exploration ship since the days of 'North West Fox,' who sailed northward to the Arctic Circle two hundred and ninety years ago. After being frozen in the ice for three hundred and six days, she was ready for her second trip. She carried provisions for fifteen months. If we failed to break out of the winter's ice, our only resource was to live with the Eskimos, eat what they eat, dress as they dress. This we had done many times in the past, and therefore had no serious apprehensions as to the future.

Our ambition for further Arctic work was based upon the report from the Carnegie Institution of Washington that the results of our observations in terrestrial magnetism and atmospheric electricity were of such interest and value that supplementary work in other sections of the Arctic should be done.

As a further incentive the National Geographic Society deemed it fitting that a memorial to the dead of the Lady Franklin Bay Expedition be placed upon the spot where they perished.

We sailed consequently under the auspices of these two great organizations, our objective being a point as near as possible to Cape Sabine in Smith Sound.

As the final pages of this book are written, the Bowdoin and her crew are once more ready to sail from Wiscasset, in the hope of bringing back the results of new discoveries and observations that shall add something worth while to the sum of human knowledge.

Donald Baxter MacMillan

Wiscasset, Maine
June 25, 1927

POSTSCRIPT

(By radio)

We are back among the big hills of Labrador enjoying the wonderful inside runs through its multitude of moss-covered islands. The Bowdoin arrived safely at Nain, the Moravian Eskimo village, on July 22. We began at once to seek out a suitable spot for winter quarters, which was finally found at the head of a beautiful bay abounding in game. Here we have decided to establish our scientific station because of the many advantages and opportunities offered for good work. Scientifically we are in a virgin country. Not a single scientist has ever visited the region. Geographically it is known only to Eskimos and 'Liveyeres,' the poor whites of Labrador. The bay, like all the bays hereabouts, remains uncharted. From the tops of the mountains we can see lake after lake extending into the interior, all full of promise to our ichthyologist. Our houses will soon be built and in two months will be buried in protecting snows. Snappy cold fall days mean work in preparation for the long winter, and then sledges will be harnessed, carrying our men up and down the coast to visit Eskimos, and into the interior to study the life of the Nascopie Indian. Already we have some very interesting and valuable results: — the first chapter in what we hope to be a long line of discoveries. My men are happy, all well and hard at work.

D. B. M.

Bowdoin Harbor, Labrador
August 5, 1927

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FOREWORD

BY

GILBERT GROSVENOR, LL.D., LITT.D.

President National Geographic Society

IN the early eighties of the last century, Captain Neil MacMillan, one of the sturdiest sailors who ever cast off from historic Provincetown, perished in Arctic Seas. But he left behind a six-year-old son in whose breast his own adventures had instilled a burning ambition to know the Arctic and to master its moods.

The call of destiny to those whom it elects to the great tasks of life often comes in strange guises, but to none has it assumed a more unusual shape than to Commander Donald MacMillan, grown to manhood, and prepared by an indomitable will for physical perfection, for the hardy tasks to which he aspired. Some twenty years ago he was a teacher in Worcester Academy, maintaining a summer training camp at Casco Bay, Maine. As he walked home late one evening he heard faint cries of help coming from the dark waters beyond his camp. He seized a small boat and rowed swiftly in the direction whence came the cries. Presently he found a capsized sailboat with three boys and three girls clinging helplessly to the keel. Bringing them safely ashore, he returned again and recovered the body of a seventh, who had been entangled in the rigging. Several days later, by similar resourcefulness, it was his good fortune to save three other lives.

The newspapers learned of these rescues and published the story. This story the gallant and chivalrous Peary, Medalist of Kane Lodge, read, and, recognizing the kindred spirit of the heroic young teacher, dispatched him a letter of personal congratulation. In thanking Peary for his letter, MacMillan acknowledged his ambition and volunteered to enlist with Peary if the latter could use him in his forthcoming effort to attain the North Pole. When Peary sailed north on his historic and triumphant quest of the Pole, MacMillan accompanied him as one of his most trusted and efficient lieutenants.

Thus introduced to the Arctic he longed to know, by as brave and resourceful an explorer of polar areas as the world has ever known, Donald MacMillan set himself assiduously to the task of penetrating the secrets and laying bare the mysteries of the kingdom of cold. With only one or two exceptions, each succeeding season has seen him at work in that region, enriching the world's knowledge of its geography and geology, gathering meteorological data and biological information, and laying the foundations upon which future Arctic research will largely rest.

One thing is certain, Donald MacMillan never explored the Arctic to escape from people. He loves teaching, he plays the violin, his house is overflowing with books, the people at Wiscasset say, 'Don is a good neighbor.' When he sets sail from the little harbor in Casco Bay they declare a business holiday and go down to help him load up the Bowdoin. And he seems to 'get along' as well with the Eskimos of Etah and other more remote Northern people. He is kind and generous. His poise is remarkable and never fails in any emergency.

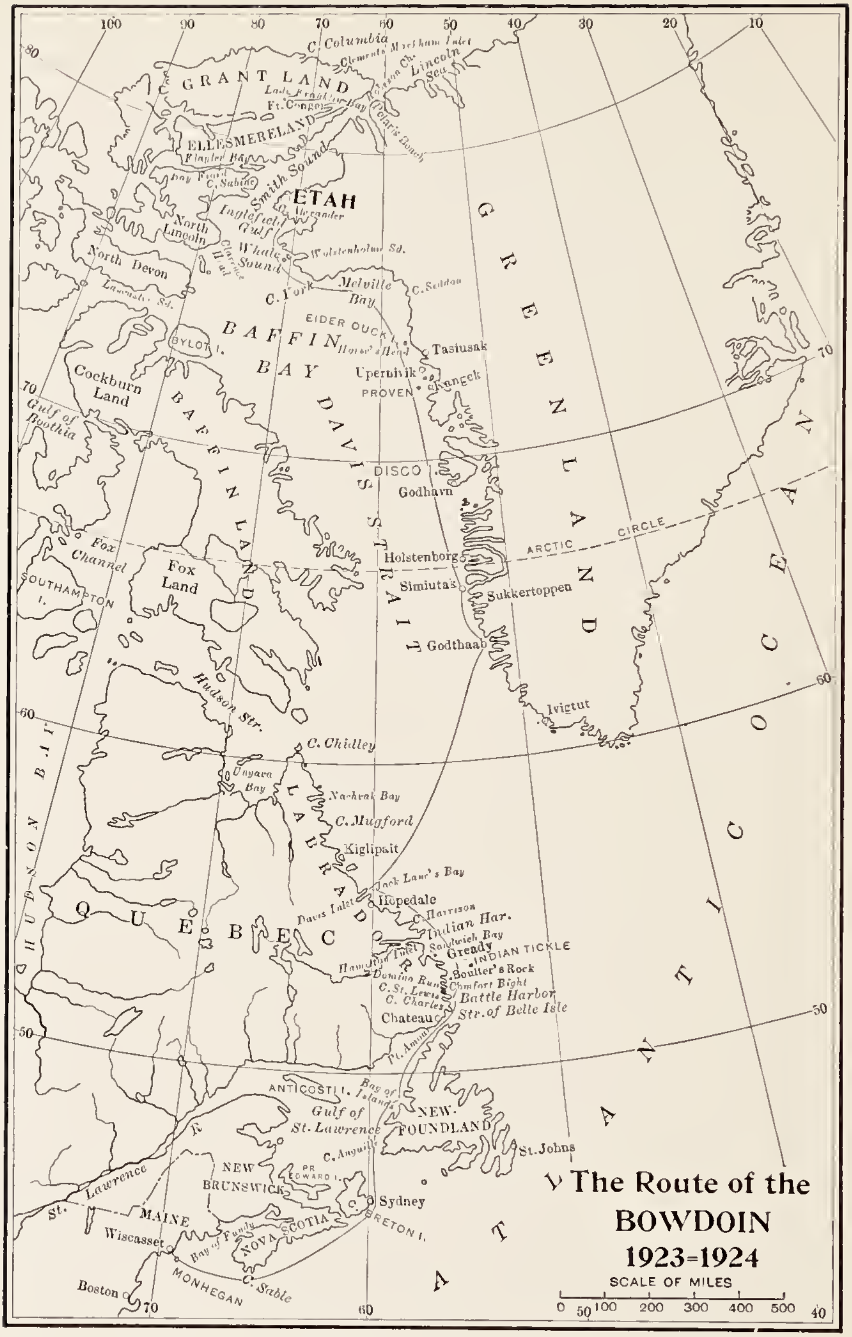
Once, the day before the Bowdoin was to set sail, when the entire town and its neighbor villages were keyed up, an accident happened which threatened to delay starting a week — and a week's delay in the Far North's short 'open season' means much. The little vessel jammed into a wharf and broke a propeller part.

MacMillan looked on calmly, and without raising his voice sang out to his engineer, 'All right, John, you couldn't help it. We'll fix it in a jiffy.'

It is a truly wonderful experience to sail with him on his

Bowdoin and to watch the amazing dexterity with which he handles the little vessel in all kinds of weather.

America and the world owe Commander MacMillan a debt of gratitude for the splendid contributions to knowledge of the Arctic he has made. The feeble voice out of the darkness in Casco Bay called him to his inspiring tasks. The strong voice of national appreciation of his work proclaims him a worthy successor of the great leader whose steps he has followed.



The Route of the BOWDOIN 1923-1924

ETAH AND BEYOND

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CHAPTER I

WE ARE OFF FOR THE NORTH

Wiscasset was crowded with people come to witness the second departure of the Bowdoin for the Far North. The two hotels were filled to overflowing. Automobiles were parked thickly about the custom house, the center of the activities of the day. From its steps the expedition, bound for its long months of exploration and research in the Arctic, was to receive the official farewell of the State through its Governor, Percival Baxter, my classmate at Bowdoin. And here also the people were to see and hear America's most distinguished living Arctic explorer, General Adolphus W. Greely, the leader of the Lady Franklin Bay Expedition of 1881–84. Austin MacCormick had come as the representative of the Bowdoin College Alumni. William D. Patterson, of Wiscasset, and Hiram Maxim, President of the American Radio Relay League joined in the friendly ceremonies of farewell.

The day, June 23, 1923, and the setting were beautiful: the lovely Maine town, rich in historic association; the red-brick building of the custom house and post office; the dense throng with uplifted and deeply interested faces; the beautiful evergreens; the sun-flecked harbor; and, but a few yards distant, the staunch little Bowdoin with colors flying from truck to deck, impatient to be away and at her work in ice-filled waters.

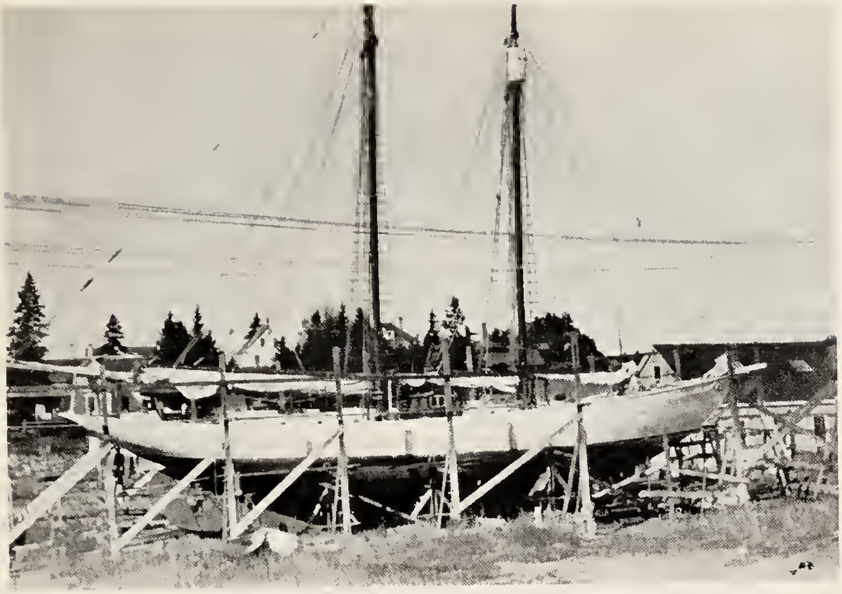
After listening to the recital of General Greely depicting the hardships of all and the death of most of his party and the crushing of the Proteus, ten times larger than our own little ship, many of those there assembled on the green doubted the wisdom of our venture. Nevertheless, following us to the dock, they examined with renewed interest what was to be our home for the next fourteen months. Another good-bye from the Governor and personal friends and we were away to the rhythmic chug of our oil engine and the click of several cinematographs.

Our departure, however, was more official than final. Much remained to be done. No ship can be properly groomed and fitted for sea with decks black with sightseers and well-wishers. It was my purpose, therefore, to proceed down the Sheepscot River to Boothbay Harbor, there to remain over Sunday, have the Bowdoin swung for compass variation, and then depart on Monday for Monhegan Island, from which we were to take our final departure on Tuesday, June 26th.

Relatives, patrons, and special friends, including General Greely and his daughter, Mrs. Kress, accompanied us on this first stage of our journey. At Boothbay I left the Bowdoin in charge of my crew, and motored back to my home in Freeport, Maine, to attend to many details attendant upon my departure for certainly one and possibly two years, and, with bare possibility, forever.

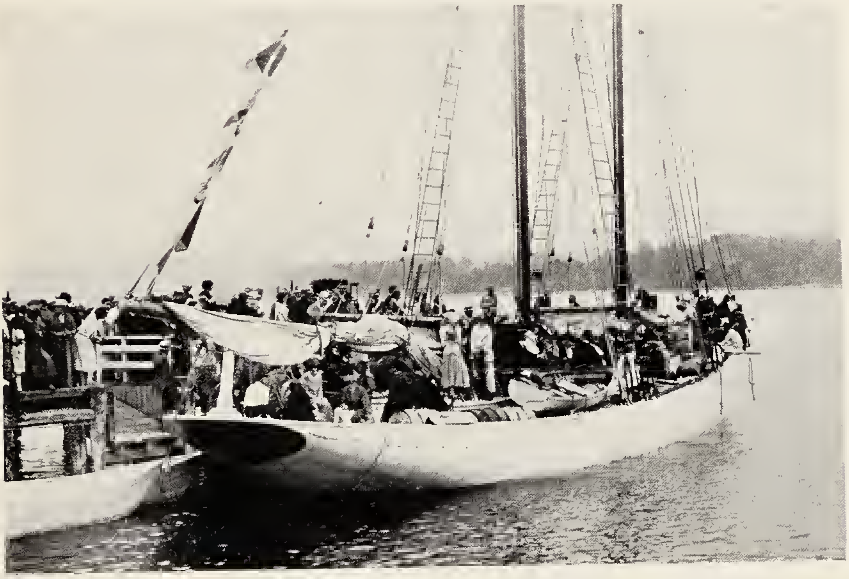
Upon my arrival on board Monday morning I found everything shipshape and the Bowdoin ready for sea. Breaking out our colors we headed down the harbor and to the eastward for Monhegan, twelve miles distant.

This second stage of our journey was not without incident. It proved to be of especial interest to our guests. When within four miles of the island, two medium-sized whales broke water off our port bow, their great glistening black backs calling forth loud exclamations of surprise and wonder from those on board who had never before seen such a sight. With deep labored breathing the



GETTING READY FOR THE TRIP

The Bowdoin in dry-dock, showing her easy lines



SETTING SAIL FROM BOOTHBAY HARBOR

Copyright by McDougall & Keefe

DROPPING DOWN THE HARBOR

OFF NOVA SCOTIA

whales disappeared only to emerge again within fifty feet of the Bowdoin.

The effect upon the various members of the party was of much greater interest to me than the size and general appearance of the whale, undoubtedly a finback (*Balænoptera physalis*). The women were, obviously, much astonished and revealed it in loud exclamations; the men were excited, rushed for vantage-points — and yelled for rifles. My mate grabbed a can of pemmican and hurled it with all his might at the nearer of the two. The cook stuck his head out of the cabin and was heard to mutter, 'What do you know about that!' — a favorite expression which we were to hear many a time later.

We had on board as guest and passenger, Captain Frank Pierce, of Monhegan. Knowing that his long experience in these waters had given him a perfect knowledge of all the shoals, ledges, tides, and currents, I dismissed all responsibility of pilotage with him at the wheel. He had steered the Bowdoin on the last lap of her journey the preceding September and was now heading her from home at the beginning of her new trip. It was Captain Pierce's intention to take us right to the new granite dock; but to our disappointment we found it occupied by a small herring steamer. As we were preparing to anchor among the ledges on the north side of the harbor entrance, a shifting of the lights at the end of the pier indicated that the steamer was courteously changing her berth to make way for us.

As we approached the pier, now almost obscured by darkness, a surprise awaited us. Many of the early summer arrivals had assembled at the landing to bid us welcome. They had very hospitably received us home in the fall and were now to witness our departure in the spring. Tin horns, bells, and kindly greetings made us feel that the Bowdoin had arrived at her home port.

Although it was eight-thirty in the evening, Captain

Pierce insisted upon our going to the Island Inn for a lobster dinner. It is needless to say that the next hour was one of enjoyment, when with nearest relatives and best of loyal friends we supped around a board decorated with small American flags, island wild flowers, and the best of Maine cooking, all a tie which bound us more firmly to the home land and hastened a bit the coming when our work was over.

And no less enjoyable was that which followed, a moonlight walk across the island to the great cliffs looking seaward, God's buttresses of defense against the eternal enmity of the sea. Far out over the moonlit waters to the east lay our path of to-morrow, the path leading from the home door to distant lands and strange experiences. Here our friends had stood in the fall peering into the darkness for the red and green sidelights of the Bowdoin. Here they would stand again to-morrow to bid us good-bye. Reluctantly we turned back through the woods to the Inn and to the Bowdoin nestling against the dock.

A well-known landmark and an excellent landfall, 'M'n-higgin,' Maine's most famous island, may be seen on the oldest chart of New England and on that of Champlain as 'La Tortue.' We think of Plymouth as the foundation of New England, but long before the Mayflower entered that harbor in 1620, Monhegan was a thriving fishing port during the summer months. In fact, Drake tells us, in that classic 'Nooks and Corners of the New England Coast,' that 'starving Plymouth was succored from Monhegan as early as 1622.'

In the journal of Captain John Smith we find: 'Between Monahiggin and Monanis is a small harbor, where we rid.' Here George Weymouth anchored on the 18th of May, 1605. A quotation from Rosier is of interest:

> It appeared a mean high land, as we afterward found it, being an island of some six miles in compass, but, I hope, the most fortunate ever yet discovered. About 12 o'clock that day, we

> came to an anchor on the north side of the island, about a league from the shore. About two o'clock our captain and twelve men rowed in his ship-boat to the shore, where we made no long stay, but laded our boat with dry wood of old trees upon the shore side, and returned to our ship, where we rode that night. . . . This island is woody, grown with fir, birch, oak and beech, as far as we saw along the shore, and so likely to be within. On the verge grow gooseberries, strawberries, wild pease, and wild rose-bushes. The water issued forth down the cliffs in many places; and much fowl of divers kinds breeds upon the shore and rocks.

To-day it is the home of hardy Maine fishermen and of a happy summer colony of artists, a bit jealous of their beautiful island.

The morning of the 26th was all too short. Our cabins and bunks were piled high with bundles and boxes, last presents for Christmas and birthdays. Finally these were stored away in the already overcrowded lazarette and the chart table cleared for navigating. At 3.45 P.M. under full sail and power we cleared the most southern point of Monhegan with fresh southwest wind and easy sea, laying a course of 120° for the lighted buoy five miles south of Seal Island, Nova Scotia, one hundred and forty-seven miles away.

While the log, the speedometer of the ship, is registering the miles across the Gulf of Maine, let me enumerate my companions on this, the second cruise of the Bowdoin.

Too much care cannot be exercised in the selection of one's companions upon a long Arctic cruise. This fact was realized in the early days of exploration, the leaders being even more exacting in their demands for certain qualifications than we are to-day. Herein lies the explanation of the phrase pertaining to the dispatch of two Arctic ships on May 20, 1527, 'having in them divers cunning men to seeke strange regions.' Considering that many of the expeditions of the last century consisted of more than a hundred men, and that during the long winter months their life was mostly below decks, a very careful selection of the personnel was necessary if one would bring back all his men and have harmony and happiness among his crew. Hence the embarrassing questions: 'Can you sing?' 'Can you dance?' 'Can you play any kind of musical instrument?' 'Can you recite?'

One commander of an Arctic expedition announced that no man with black eyes would be accepted as a member of his crew because of the probability of snow-blindness. Blue eyes and gray eyes were considered to be more resistant to the penetrating rays of a bright spring sun on an Arctic snow-field. This was in spite of the fact that Nature has deemed it wise to endow her children of snow and ice universally with a dark, chocolate-colored eye!

'As homesickness was suspected to have some relation to the failure of former expeditions, none but unmarried persons were admitted as members.'

Naturally a man should be young and vigorous and energetic, and should have a love for the out-of-doors and be unmindful of wind and weather. He should have a sound heart — the wonderful little pump which forces the hot blood to the ends of chilled fingers and toes. He should have sound lungs, for energy and stamina depend so much upon the re-oxygenation of the blood, and a stomach capable of digesting anything but a mineral. Good eyes must be insisted upon, for in cold weather the man with eyeglasses is as blind as a bat due to the frosting of the lenses. But dwarfing into insignificance all the above is the one great qualification — a good disposition! Around this often centers the success or failure of an expedition, for the spirit of one man can worm-eat a strong, carefully built structure. And nearly every expedition has had the one man who was a nuisance from the beginning to the end of the voyage. That men well recommended and apparently popular with their associates will, upon their arrival in the Northland, suffer a complete transformation in their mental make-up is one of the inexplicable mysteries of

Arctic work. Kane, Hayes, Hall, Greely, Baldwin, Fiala, Peary — all have had a vast deal more trouble than can be read between the lines of their narratives.

A man must be non-argumentative, patient, and forbearing with the weaknesses of his shipmates. Here in the Arctic we cannot get away from each other. We must live together in our one little home, and look each other in the face day after day and month after month. 'There is no discharge in the war.' A man who proves to be unsatisfactory in every way must nevertheless be kept and fed and clothed and returned safely to his home.

Letters of application received from far and near would fill a book; letters from boys of sixteen and men of sixty, men who 'never intend to get married,' men who consider an Arctic expedition a legitimate channel to escape from their wives and even from the law, nurses who consider their services much to be preferred to those of a doctor, would-be authors who would like the privilege of writing a book quite different from the leader's narrative of the voyage, and a typist who writes, 'I am in perfect health, weigh two hundred pounds, am a widow, and know how to conduct myself properly among a group of scientists.'

Three of the faces are familiar and are really at home again. The mate, Thomas J. McCue, of Brigus, Newfoundland, was formerly my cook on the Baffin Land Expedition of 1921–22, and a shipmate on the Hudson Bay trip of 1920. Since leaving his home as a mere boy as a sailor his experiences have been wide and varied. He has been shipwrecked by ice in Northern seas and overcome by heat in African deserts. He served in the World War four years overseas. He is a mine of interesting information. And yet he is only thirty-five years old.

Ralph Robinson is my chief assistant, as formerly, occupying with me the after cabin of the Bowdoin. Robinson entered my classes at Worcester Academy eighteen years ago. Later he was associated with me as my assistant in physical work and also at my nautical summer camp on the Maine coast. By training a physical director, he is by nature a gentleman, painstaking in work assigned, friendly, loyal.

Richard H. Goddard, Dartmouth, 1921, is again the representative of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, D.C. Descended from a long line of seafaring men, Dick is quite naturally inclined toward a seafaring life. When our enforced inactivity in winter quarters offered an opportunity to contribute something to science through his college education and scientific training, he eagerly embraced it.

John Jaynes, like Robinson and Goddard, a Massachusetts man, is my engineer. He is one who by technical training knows gas and oil engines from foundation bed to petcock. Resourcefulness is a trait demanded of a man in Jaynes's position, more so on an Arctic expedition than on any other nautical trip in the world. I have known Jaynes for nearly twenty years, so I know that I possess a positive and not a negative factor, so detrimental to the interests and happiness of an Arctic expedition. The reader may congratulate me on Jaynes, a teacher of many years of experience, a man who knows something.

One's happiness is so largely dependent upon a full stomach and good health that I endeavored to be extremely careful in my choice of a cook. I found a good man in William Lewis, formerly of Digby, Nova Scotia, and now a naturalized citizen of Lynn, Massachusetts. He is well along in years for such a trip, but his sea training and his skill in cooking are better than youth and inexperience. A poor cook has broken up many a home.

The youngest member of our expedition is Donald Mix, wireless operator, from Bristol, Connecticut. Mix is a 'Ham,' furnished and highly recommended by the American Amateur Radio Relay League. No message ever came too fast for Don. Tall, raw-boned, sandy-haired,

RALPH PORTER ROBINSON
Mate of the Bowdoin

RICHARD GODDARD

DON MIX
Radio operator

freckle-faced, a big mouth, a wide grin, a good fellow. My only criticism is that he is too quiet! I mention this because I was quoted all over the country as saying that during the long winter night I order my men not to talk, fearing lest they talk themselves out! Newspapers are sometimes interesting, especially when they quote you.

But there are three others about the deck. Who are they? All special friends and guests. The serious-looking, slightly built man at the wheel was at one time my favorite pupil at Swarthmore Preparatory School — it doesn't seem possible — twenty-four years ago. He is Leonard Ashton, of Swarthmore, Pennsylvania.

The boyish, frank-looking man in the mate's watch is Sheldon Fairbanks, representative of the North American Newspaper Alliance. Fairbee, as the boys called him, was practically a member of our expedition in that he followed its fortunes far more minutely than any other man. He knows something of the trials of a leader from the inception of the plan to time of departure. He knew our hopes, purposes, ambitions, what we would do if plans failed, if blocked by ice, if the Bowdoin were lost. With the inquisitive mind of the keen reporter he had us 'covered.'

The happy laugh from the forecastle comes from E. F. McDonald, Jr., a Chicago man, a loyal friend to the expedition and one of its best patrons. For months before the date of sailing, McDonald gave generously of his time and money to equip the Bowdoin with a radio outfit, a contribution which may add more to our happiness than any other single item. I am happy to have 'Gene' with me that he may personally experience its benefits and rejoice with us over the wisdom of his plan.

Leonard Ashton is to accompany us as far as Sydney, Nova Scotia; Fairbanks and McDonald are to leave us at some point on the Labrador. I am hoping that they may find our trip of sufficient interest to accompany us at least as far as Battle Harbor, the borderland of icebergs, the edge of what might be properly termed the Sub-Arctic.

Our first evening at sea was signalized by a terrific thunderstorm. The blotting-out of the stars and the blackening of the sky west and north portended a squall. With considerable apprehension I watched the whole sky assume the color of ink and ordered all hands to stand by to take in all sails. There is an old sailor's adage: 'If the wind comes before the rain, hoist your topsails up again.' Such is not infallible, as experience proves. The sky cracked open emitting a jagged line of light. Then followed crash on crash and roll on roll, but as yet no rain or wind. The deepening gloom, lightning flashes, and peals of thunder encircled us completely. The Bowdoin chugged merrily on under full sail and power. So small and so deeply loaded, the gods of the storm passed her by. A light streak on the western horizon promised an end to what must have been a memorable thunderstorm to people of eastern Maine, New Brunswick, and Nova Scotia.

By nine-thirty the next morning, we had run our distance by the log, which had been tested repeatedly on the last trip and found to be practically without error. I then swung the Bowdoin off on a new course of 74° for the whistle off Sambro Island, which lies at the harbor entrance of Halifax, Nova Scotia. Visibility was poor owing to haze; therefore I hardly expected to see buoys or land, and yet I should have known, having heard it from old sailors since boyhood, that Cape Sable is tricky and not to be trusted. It has been a veritable graveyard of ships and men because of heavy fogs, bad shoals, and strong tides which sweep around the southwestern end of Nova Scotia up into the Bay of Fundy. I have seen seas breaking between Briar Island and Grand Manan in a flat calm!

After proceeding about an hour, a lighthouse was faintly discerned off the port bow. According to our log I judged this to be Cape Sable and continued on the same course. This I know now to have been Seal Island Light. A minute's study of the chart revealed my error and the unknown dangers confronting us in thick weather. Having felt secure that the Bowdoin had a clear run of one hundred and forty miles, I was greatly astonished, as you may well imagine, when after three hours' run land was descried dead ahead. We figured that had we passed Cape Sable this could be nothing else than the Salvages between Baccaro Point and Negro Island. And if we were headed toward this section of the coast our compass was plumb crazy! Could it be possible that the terrific thunderstorm of the night before had affected the compass?

I was familiar with the experience of the White Star Steamer Germania off Nantucket on July 11, 1884, when one compass showed an error of two points and the standard compass was rendered perfectly useless for a period of two hours following a severe electric storm. Many other similar cases might be cited such as that of the S.S. Sedgemore: when, crossing the Gulf Stream bound from Baltimore to Liverpool, *her steering compasses were completely reversed!* The S.S. Capella on May 16, 1892, suffered a similar experience. Her compass on the upper bridge was deflected from N. 72° W. to 45° W.! The magnetism of the whole ship proved to be reversed. Both these latter ships, it should be stated, were actually struck by lightning.

Within a few minutes I had unpacked my spare compass and brought it on deck for comparison. The two compasses agreed exactly to the point. There was only one conclusion. The log was inaccurate after a year of rest, or one of us had been careless in the reading. We had not rounded the Cape, but were still west of it. I had mistaken Seal Island Light for Cape Sable and was running right in on the land, and bad land at that. The lighthouse on our port bow was on Bon Portage Island, the one dead ahead was West Head on the western shore of Cape Sable Island. I was not convinced of this, however, until we had cruised along the shore of Green Island and arrived within a mile of Black Head. I reversed the course, picked our way back past Black Head and Green Island Ledge, and, close-hauled on the starboard tack, stood out to sea, passing close to the gas and whistling buoy four miles southwest of Cape Sable.

I recite this in detail for the benefit of cruising yachtsmen and with this admonition, namely, to make dead sure of your light or landmark. A positive identification of such is of far more value than lead, log, or compass course. Governments recognize this by endeavoring to bestow upon each light a marked individuality in general appearance and in flash. Seal Island and Cape Sable lights are alike in one respect only, namely, both are octagonal white towers, but Seal Island is distinguished by two red horizontal bands. Trusting absolutely to my log, I had failed to notice this. As the tide ebbs and flows around these points at four miles an hour, I should suggest that a course be laid at least ten miles to the southward in view of the fact that Seal Island has a visibility of sixteen miles and Cape Sable one of twelve.

Wednesday night, the 27th, at sea was one to be remembered. Volumes have been written extolling the beauties of a full moon in all sorts and conditions of life in varied places. In short, a full moon is beautiful anywhere, but to me especially bewitching at sea, accompanied by the musical ripple of cleaved waters and the rhythmic motion of a good ship with fair wind.

We were taking no more chances. We were well off during the night and saw no lights whatever along the land. A momentary flare from a fishing boat almost under the bows startled the men in the mate's watch, when passing over the inner edge of Sambro Fishing Bank. Often the flare is seen too late or not at all and the fishing boat fails to return. The Bowdoin under full sail and power, logging ten knots, swept by within a few feet of a small craft.

Checking up the course and distance at the beginning of my morning watch, I decided to make the land and laid a course for Egg Rock Lighthouse, between Jeddore and Ship Harbors. The octagonal wooden tower with black-and-white stripes was easily identified, as was later Ship Harbor whistle buoy. A beautiful day, with bright sunshine and fair wind, promised a quick run to Sydney. A trip, however, from the United States to Sydney without encountering fog, either in the Bay of Fundy or along the Nova Scotia and Cape Breton shore, is hardly to be expected. When I came on deck at six Friday morning, I found it raining and thick and knew we were to have our usual search for Scatari on the eastern end of Cape Breton Island, which marks the turn into Cabot Strait and Sydney Harbor.

At 11.15 A.M. June 29th, we were at anchor in North Sydney, and the first real stage of our long journey was over. Here we were to lose one of our number. Leonard Ashton was to return by the night train. We were sorry to lose him. With no practical sea experience he stood his trick at the wheel like a real sailor. He gave his shipmates a dinner at the principal hotel, after which we bade him good-bye at the train.

On Saturday morning, June 30th, we steamed over to Sydney proper, a distance of five miles, and dropped anchor in front of the yacht club, well remembering the courtesy and hospitality invariably extended here to visiting Americans, and especially to the Bowdoin, which flies the flags of six yacht clubs, Boston, Portland, Winthrop, Chicago, Boothbay, and Southport.

Monday, July 2d, was Dominion Day, and consequently all business was at a standstill. Here, as in Newfoundland on public days, every one seemed to be going trout fishing, a kind of national pastime. All who were not going fishing were to attend the horse trot at Glace Bay. My crew joined the latter crowd and greatly enjoyed the day. On Tuesday, July 3d, we pulled alongside the dock to take on supplies, oil, and water. Sydney is really the outpost of civilization for an Arctic expedition. Things forgotten and delayed at home are here purchased and even rushed through from the States. Here we obtained our last green vegetables and fresh meat, also letters and packages from home. A limited quantity of fuel oil and kerosene can be obtained on the Labrador coast and in Greenland, even beyond the Arctic Circle.

One by one the men came running down the dock at the last minute, arms piled high with bundles, smelling strongly of the barber shop, hair cut and neatly combed, face smooth and well-powdered, having enjoyed the last professional operation for many months to come.

Hatches were closed, everything was lashed down for heavy weather. All on board. We were ready to go!

CHAPTER II

SYDNEY TO BATTLE HARBOR

At 5 p.m. we proceeded down the harbor, bound for the North. A large British coal steamer at anchor off the coal docks recognized and saluted us with three long blasts, which I answered with the air whistle of the Bowdoin. Clear of the mouth of the harbor, I laid a course three miles outside of Cape Anguille on the southwest coast of Newfoundland. The southern coast of Labrador and the Straits of Belle Isle are so treacherous that I was anxious to check up my course and distance at Cape Anguille and take my departure from that point. A thick fog through the night precluded all possibility of this. However, at 5.17 a.m., when directly off the Cape, there was a momentary break in the black curtain, giving us the faint outline of this bold headland which has an altitude of nine hundred and eighty-four feet above the sea. Cape Anguille is one of a long list of French names on what is still known as the French shore, indicative of the early occupation of this part of Newfoundland by French fishermen.

With fair wind and engine we were rolling along at nine and ten knots, the American flag snapping in the fresh southwest wind in honor of the 4th; therefore, to conserve our oil supply for the ice fields farther north, I shut off the engine. It is worth stating that the knockabout schooner Bowdoin is an auxiliary, equipped with a 60 H.P., four-cylinder, C.O. type of oil engine built by Fairbanks & Morse. It has always been a problem in Arctic work to find a ship of sufficient cruising radius to reach a high latitude and return to her home port. The bunker capacity of the ordinary steamer is far too small. Even Peary's ship, the Roosevelt, built especially for Arctic work, could not go North unattended, but was compelled to have a coal carrier. Her consumption was about fifteen tons a day: her speed, eight knots. Our consumption is five gallons of oil per hour or one hundred and twenty gallons a day. Our speed under engine alone is eight and a quarter knots. Our tank capacity of 2200 gallons provides for a cruising radius of 3629 miles, remarkable considering the size of the Bowdoin, which is only fifteen tons net.

At 6 A.M. Thursday, I changed the course for Point Rich on the western Newfoundland coast in latitude 50° 42′, with the hope of picking up the fog signal and taking a new departure for Isle au Bois on southern Labrador. We stopped the engine and listened in vain. By the character of the water I decided we must be in Ingornachoix Bay and to the southward of the Point. We 'hauled up,' laid our course, and passed two miles to the westward of Point Rich. At noon we were again on our course for Isle au Bois, thirty-eight miles distant.

At 6 P.M. the lofty buttes of Bradore, 1264 feet in height, loomed up in the fog, looking immense in the mist and gathering twilight. Just where our landfall was it was impossible to say. A good anchorage was the important thing. As we were picking our way in among rocks, long low-lying ledges, and shoal ground, endeavoring to find a lee, a light flashed up on our starboard quarter, its brilliancy so diminished by the moisture in the air that at first I judged it to be on the Newfoundland coast, twenty-one miles away. A flash every two and a half seconds identified it positively as Greenly Island, the very light for which we were looking. A bearing gave us our position approximately. The character of the Bay ahead of us was not a bit attractive, the bottom too near the top. I was glad to put the wheel hard-a-port and steer for Sandy Bay, two and a half miles northwest of Greenly Island. Here we dropped anchor in five fathoms on clear sandy bottom, completing the second stage of our journey. With a cheer-ee-o, all sails were lowered and snugly furled. The Greenly Island light blinked us good-night as darkness settled over the Bay.

The next day was not favorable for proceeding, the wind being northeast and raining; a good day, however, for exploring. Perroquet Island, visited by Bowdoin and Williams College students in 1860, was a few hundred yards distant. Around and over it could be seen a multitude of puffins (*Fratercula arctica*), really comical-looking birds. Because of the size and shape of its bill the puffin is sometimes called a 'Jew Duck.' I had read much of its breeding ground on southern Labrador. Here was an opportunity to view one at first hand. McDonald, Fairbanks, and I motored over in our Mullins steel boat. Upon landing we discovered the ground and even the red Cambrian sandstone to be literally honeycombed with burrows. That some of the young were still in their holes, although it was late in the year, was indicated now and then by a whir of wings from almost beneath our feet. A closer examination of the nests by digging away the sand which had accumulated around the sandstone rocks revealed a number of young nearly ready to fly, and even a few eggs. The floor of a small shack was littered with eggshells. This was of interest, for we knew that a warden was appointed and paid by the Canadian Government to protect this colony from the depredations of the Newfoundland fishermen. The matter was not difficult of explanation, however. The warden was in camp on the mainland, and, although endeavoring to do his best, he had no boat!

In the evening we visited Lone Point Village, consisting of one hundred and fifty people, mostly French. A Catholic priest here was most hospitable, showing us with noticeable pleasure and pride his little church being repaired and newly painted. For thirteen years he has ministered to these people, traveling thousands of miles with dog team.

How many of these utterly unselfish and self-sacrificing men we know little about!

As I looked toward the big hills over the bow of the Bowdoin, my mind conjured a motion picture of the successive stages of Labrador during the last one thousand years: the 'Helluland' of the Norsemen, undoubtedly the first of the American continent to be discovered; the 'Newlands' of the Cabots; the 'Terre Neuve' of Gaspar and Miguel Corte Real; the 'Litus Incognitum' of the Waldsee-Müller map of 1507; 'Terra del Labrador' of Perode Barcellos; 'The land God gave to Cain' of Jacques Cartier; 'Terra Laboratoris' of an unknown Portuguese cartographer; 'Terra Lauorador ' of the Kuntsman map; 'Terra Nova' and 'Coreati' of the Waldsee-Müller map of 1507; 'Terra de los Ingres' of the Maggiolo map of 1511; 'Labrador' of Alonzo de Lanta Cruz; the 'Frisland' of Martin Frobisher! Once supposed to be a part of Newfoundland, again connected with Greenland and even with the West Indies, it lay shrouded in mists for centuries.

Following the memorable voyage of John Cabot 'and his sonnys,' who sailed across the North Atlantic with 'the Pole Star on his right hand' and his return from 'the new found sea,' where he reported codfish to be so numerous that 'they sumtymes stayed his shippes,' the British, French (full a hundred sailed in 1517), and the Basques or 'Biscayuers' were the earliest pioneers of the whale fishery on the southern Labrador coast. Portuguese fishermen also swarmed on the coast of Newfoundland and southern Labrador. A cursory glance at this section of the coast reveals the French fishing ports — Diable Bay, Anse à Loup, Anse aux Morts, Forteau Bay, Amour Point, Anse Eclair, Blanc Sablon, Isle au Bois, Belles Amours, Bonne Esperance, and old Brest, a mythical town of a thousand inhabitants!

At 6 A.M., July 7th, we were under way through waters frequented by the American fishing fleet as early as 1821, passing inside of Greenly Island, where in 1856, during a severe southwest gale, thirty-one vessels were driven ashore. Blanc Sablon, a name bestowed by Cartier three hundred and ninety years ago, may seem incongruous to rocky Labrador, but a summer visit reveals many beautiful sand beaches. This sleepy-looking little port with one vessel lying at anchor has caught, dried, and shipped away hundreds of thousands of quintals of fish! Through this port, which was formerly known as Anse Sablon, once passed the boundary line between Canadian and Newfoundland Labrador. Passing the mouth of this sandy-shored harbor, we turned northward for Point Amour, a corruption of Pointe aux Morts. Here lay the wreck of the British warship Raleigh, practically as she did eleven months before when we passed south from Baffin Land. Her guns were still in place, being a bit too heavy for passing Newfoundland fishermen, who had stripped the once fine ship to the shell. The Raleigh failed, as many another ship has, to hear the fog signal. Just why this station under certain conditions cannot be heard even at a short distance cannot be explained.

We were at the southern entrance of the Straits of Belle Isle, which separate Labrador from Newfoundland. At this point the Straits are only nine and a quarter miles wide. From Point Amour northward the western shore of the Straits is very picturesque, receding in buttressed steeps to hills a thousand feet in height, of Laurentian rock, capped with Cambrian red and gray sandstone. The Straits were dotted with icebergs as far as the eye could reach. A few had even penetrated through into the Gulf, far below Point Amour, farther south than I had ever seen them. Owing to tides, uncertain currents, and prevalent fogs this body of water must be carefully navigated. There is not a section of this coast but has claimed its scores of wrecks.

The next good harbor above Point Amour is Red Bay, twenty-three miles north. A heavy bank of fog obscuring Belle Isle induced me to run in here for the night. Since the wreck of our ship at Barge Point in 1913, I have always hesitated to pass this cozy little harbor with its easy entrance and good holding ground. Red Bay, Hable de Balleine of four hundred years ago, was named undoubtedly from the red syenite bordering its harbor. Once a favorite resort of the American fishermen, and in later years crowded with schooners and small boats, its population has dwindled to a mere handful, typical of hundreds of fishing ports on the Labrador. Goddard improved our few hours here by establishing a magnetic station on Double Island for the Carnegie Institute. His observations in this section should throw considerable light upon the perplexing compass deviation experienced by many ships passing through the Straits.

On Sunday, July 8th, we ran to Henley Harbor, twenty-seven and one half miles north. To our surprise shortly after anchoring we descried a small yawl rounding the point flying the colors of the Boston Yacht Club. She proved to be the Cossack, owned by Mr. L. O. Crane, of Boston, an enthusiastic yachtsman and angler, who was trying his luck on the Labrador salmon. He hoped to reach as far north as Sandwich Bay, latitude 53° 50′.

The prominent scenic feature of Henley Harbor is the Devil's Dining-Table, a precipitous mass of columnar basalt, two hundred and twenty-five feet in height. Its prismatic columns supporting its nearly flat top upon a gentle talus slope recalled student days in geology and pictures of the Giant's Causeway. It was well worth seeing. Naturally we wanted to stand on the table. The only accessible spot was found on the northeast slope, where the cliff was partly eaten away by a small drainage stream and by waters freezing and expanding in the crevices of the rock. We found a unique register on the summit — a number of small stones each bearing the initials or names of the depositors placed upon the top of the flat boulder.

From this vantage-point we enjoyed a perfect view of the cluster of small houses at our feet, of the Bowdoin, of the wonderful fiord to the west called Temple Bay, of Pitt's Harbor, and of the hills and coastline northward capped with fog. Picture after picture was vividly recalled to mind of stirring scenes here at the old 'Bay of Chatteaux,' well known long before Jacques Cartier dropped anchor on May 27, 1534. Here the Bretons and the Basques congregated in the pursuit of the whale. On a neighboring island were found several years ago forty-five tons of rotted baleen, neatly stacked and undoubtedly made ready for shipping. To-day it would represent in money value a half-million of dollars. Here the great navigator and explorer, Captain James Cook, anchored when engaged in a three-year survey of the Newfoundland and Labrador coast. And here a British man-of-war sounded the alarm and cleared for action to repel the assault of a flock of loons, which one officer declared to be a marauding band of Eskimos! Here Sir Hugh Palliser, Governor of Newfoundland, on the fifty-gun ship, the Guernsey, on August 21, 1765, made peace with the Eskimos, who had harassed the fishermen night and day until life was not safe on this coast. Here Jens Haven, Christian Drachardt, John Hill, and Andrew Schlozer, the first of that long line of devoted Moravian Brethren, began that noble work among the natives, which has continued uninterrupted for a period of one hundred and fifty-nine years.

At this port, too, Ambrose Croften, Commander of H.M.S. Pluto, took possession of the whole Labrador coast on August 21, 1797. Following Sir Hugh's letter of April 13, 1776, to the British Admiralty in which he states: 'I have visited and examined York on Chateaux Bay with all its harbours; And as this will always be the principal Port on this coast, If I am empower'd I will undertake myself to see One of these Useful Block Houses finished at that place this year; This will be an Immediate Encouragement to The Adventurers, and establish the Possessory Right to the country at a place in the centre of the whole coast,' Fort Pitt was built and garrisoned, but was captured by an American privateer in 1776. As a further protection against the '5000 of the very scum of the most disorderly people from the different colonies,' four forts are reported in 1794, namely, Fort Carlton, Fort Wallace, Fort Sheffield, and Fort Charlotte, with a total strength of twenty-seven guns. Admiral Richéry, of France, swept down on this and 'did in the month of September last (1796) attack, Land and Destroy by Fire and otherwise the British settlement in the Harbour of Temple Bay.' Whereupon Ambrose Croften, of H.M.S. Pluto, took possession 'publicly of the said settlement and Harbour of Temple Bay — likewise the coast of Labrador,' that together with Newfoundland it might serve as a 'nursery for the British Navy.'

In marked contrast to such stirring times was the inactivity of the peaceful little village at our feet on this Sunday of 1923. Temple Bay and Pitt's Harbor are both deserted. Hardly a vestige of the forts remains. Eskimos are never seen. Americans and Frenchmen have long quitted the coast. In harmony with the peace of the port were the flowering bake-apples, Labrador's own flower, on every sunny slope throughout the length and breadth of the land. Known also as the cloudberry, knotberry, mountain bramble, mountain raspberry, and knoutberry, scientifically as the *Rubus chamæmorus*, it is found in Maine, in New Hampshire, and even at Montauk Point, Long Island, New York. Another very interesting and really exquisite little flower then in blossom was the cushion or moss campion (*Silene acaulis*). This is found also in our own country on the summit of Mount Washington and in the Rocky Mountains.

Here is virgin ground for the botanist. We have spent hundreds of years, with the loss of hundreds of men and the expenditure of millions of dollars, to explore the Far North and reach the North Pole, and yet have passed by and neglected at our very doors lands rich in beauty and in valuable scientific facts, facts pertaining to the rocks, the birds, the flowers, the animals, the fish — all of which add something to the total that makes this land of ours so interesting.

Early Monday morning, we were under way for a run of twenty-six miles. American Tickle was so jammed with ice that we were compelled to make a dêtour around Castle Island. With clear weather we now had our first view of Belle Isle — the Isle of Demons, or Island of Bad Fortune of the sixteenth century. Its reputation is both bad and good, for it has harbored many a shipwrecked crew. The four-hour run to Battle Harbor was without incident. Clear weather enabled us to pass inside of Double Island, close to Gull, and inside the breaking rocks to Great, and on up the narrow run into what can hardly be called a harbor. It is more like a gigantic crack. In bad weather breakers thunder at its mouth; a heavy swell rolls through the 'tickle,' necessitating all anchors and lines.

We tied up at the dock of Baine, Johnson & Company and were greeted heartily by Mr. John Croucher, its manager, whose hospitality I have enjoyed and appreciated during my eleven visits to this port. With me Battle Harbor and Croucher are almost synonymous words. Here we have a home, sit down to a white tablecloth, to woman's cooking, enjoy the luxury of a hot bath, and cache our valuables and 'store clothes' against our return from the North, one, two, three, and even, in one case, four years later.

Battle Harbor has been called the capital of Labrador, and perhaps rightly, for it is in many ways the most interesting port on the coast. It is generally believed that it derives its name from the tradition of an encounter here between the Indians and Eskimos, invetcrate enemies even to-day. According to Gosling, however, the name 'Batal' was found on maps two hundred years before the date of the supposed fight and is the Portuguese word for a boat. That it was a well-known and prosperous fishing port one hundred and forty-four years ago is evidenced by the fact that an American privateer entered the harbor and committed depredations during our Revolutionary War. Some of the buildings here are among the oldest on the Labrador, the seams between the planks being calked and payed with pitch like a boat. To-day 'Battle' is a popular harbor for 'floaters,' 'stationers,' and 'liveyeres.' The 'floater' is the green fish catcher who sails leisurely northward along the coast, salting his fish in the hold of his schooner, and later taking them to St. John's, Newfoundland, to market. The 'stationer' or 'freighter' is a summer land transient who owns a fishing station, which may be a very modest turf-covered shack housing his wife and children, or a home made from a section of an overturned boat, or a very imposing set of buildings, known as 'rooms.' From such establishments more than three hundred thousand quintals of codfish are exported direct each year in iron steamships and in Norwegian and Danish barks. Some five hundred thousand quintals are transported to Newfoundland.

What a wealth of history and information is revealed by the nomenclature of a coast line! In the word 'Batal' we have evidence that the Portuguese visited this coast and possibly fished at this very harbor. Yankee Cove, American Tickle, American Creek, proclaim the visit of our own fishermen; Frenchman Run, the French; Indian Point, Indian Bight, Indian Islands, Indian Tickle, Indian Harbor, Indian Head, Indian Cover, the presence of Eskimos, known among the fishermen as 'Indians.' The fishermen used at least three kinds of craft, for we find Brig Harbor, Schooner Run, and Sloop Harbor. That the crews were not temperate, we know from Grog Island and Drunken Harbor and Drunken Cove. That the coast must needs be carefully navigated, we may judge from such names as Wild Bight, Wild Cove, Mad Moll, The Wolves, Bull Dog, Ragged Island, Ironbound, Windy Tickle, Wreck Bay, and Run-by-Guess Tickle. Pinch Gut is suggestive of a personal experience, but evidently not a serious one, for a short distance beyond we find Tea Pot Island, Coffee Island, Sandwich Island, Fill-Belly Island, and at last, Paradise!

What species of fish do we find on the Labrador? The chart will give us that information: Cod Island, Capelin Bay, Tom Cod Rocks, Herring Island, Lance Cove, Grampus Tickle, Whale Island, Pike Run, Trout Cove, Salmon Island, Crab Island, and Sculpin Island.

What kind of animals? Seal Island, White-Bear Bay, Deer Island, Great Caribou Island, Hare Island, Fox Harbor, Black Bear Bay, Porcupine Point, Ferret Island, Wolf Island, and Otter Brook.

What kind of birds? Gull Island, Shag Rocks, Pigeon Island, Gannet Island, Penguin Harbor (now extinct), Eider Duck Island, Goose Cove, Curlew Point, Raven Island, Eagle Cove, Partridge Bay, Tinker Island, Diver Tickle, Dove Brook, Grouse Island, Merlin Hill, and Lark Harbor.

Black Fly Island and Mosquito Cove tell much in a few words of the curse of the Labrador, as every visitor during June, July, and August knows. That the early fishermen were as romantic and sentimental then as now, we know from Lady's Arm, Lady Cove, Lily Rocks, Sophia Harbor, Emily Harbor, Fanny's Harbor, May Harbor, Elizabeth Harbor (she fell overboard here), Jane White's Cove, Jennie White's Cove, and Port Charlotte. Is it a windswept, barren coast? The numerous Green Islands, Green Coves, and Wood Islands all deny the accusation. Massacre Island and Cut-Throat may prejudice us against its past, but Favorite Tickle, Comfort Bight, and Paradise lead us to believe that all is not bad on the Labrador.

Battle Harbor is best known to the American public through the work of Dr. Wilfred Grenfell, the Labrador and Newfoundland missionary. It was at this port that the first hospital was built in 1893, the beginning of a noble work by a real man. The story of Grenfell's humanitarian and philanthropic work among the fishermen and poor whites on this coast would fill volumes. I have talked with ailing fishermen in their squalid dark cabins, with 'liveyeres' in their comfortless huts, and know what a blessing this man and his associates, such as Dr. Grieves, Dr. Little, Dr. Paddon, and many others, have been to suffering and needy and ignorant Labrador. Thank God Americans have realized this and have given generously to the work.

In the evening we were the guests of the hospital staff and found them the same congenial and enthusiastic party as in former years. Dr. Knapp was in charge. At the request of the hospital we ran electric wires to the loft of one of Mr. Croucher's fish stores and improvised a motion-picture theater — the first on the Labrador. Barrels, boxes, and nets served as seats. Every detail of the six reels was eagerly followed — a new and wonderful world to many.

But all was not play and entertainment at Battle Harbor. On the top of the highest hill were three holes, the three points of an equilateral triangle, drilled in the rock. To the casual observer these were merely holes and had served their purpose, whatever that may have been. To Goddard, our magnetic observer, they were more significant, for they marked the site of the observation tent of William J. Peters when doing an important work for the Carnegie Institution of Washington in 1915. Again, as in 1922, we reoccupied the station, obtaining supplementary data for this most interesting and most valuable branch of science.

Another of our guests, a staunch friend of the expedition, Mr. McDonald, reluctantly decided to return home from here. Charmed with so much of the Labrador as he had seen, he declared he would certainly return the following year to meet and greet us when we emerged from the North. McDonald was a good shipmate. He carried back with him to the South far more than the contents of his sailor's bag; he had the friendship of every man on board.

CHAPTER III

'DOWN NORTH' ALONG THE LABRADOR

FRIDAY, the 13th, is as good a day as Friday the 12th or 14th; therefore, free from all superstition and while the fishermen, doctors, and nurses were still asleep, the Bowdoin stole quietly out of her dock and headed northward along the forbidding coast. The Cossack of the Boston Yacht Club had left even earlier. We soon overhauled and passed her well off shore.

We had already encountered hundreds of icebergs, which are ever present in waters from Cape Charles northward, but as yet we had seen no real pack ice, which hugs the coast throughout the winter and spring months so closely as to prevent all communication. In fact, there have been years when the entire coast was blocked during the summer, namely, 1811, 1816, 1817, 1836, 1855, 1870, and 1871. This ice is driven southward by the polar current at the rate of two and three miles a day, depending largely upon the force and direction of the wind. To my surprise, forty-three miles north of Battle Harbor we met the pack extending from the land indefinitely seaward. We stood off shore looking for a possible opening, but discovered no lead of any size through which the Bowdoin could worm her way northward. I decided to make harbor while the ice moved southward or off shore with the wind.

This stretch of coast from Cape St. Lewis to Domino Run is particularly puzzling to one not thoroughly acquainted with its thousands of islands, rocks, ledges, and deep arms. One expression of my mate, J. C. Small, some years ago seems entirely fitting: 'God dropped that upside down!'

Since there are no lights, buoys, bells, or aids to navigation of any description, every rock, ledge, and ripple must be carefully scrutinized and the color of the water noted. This last is a tremendously important factor in navigating uncharted waters. I steered for what I thought must be Comfort Bight, but as we drew nearer a narrow run could be seen extending right through the harbor into a bay beyond. The nearest place of this description was Boulter's Rock, and such it proved to be. Lowering and furling our sails, we went in slowly under half power, since it was a new harbor for me, and anchored in the middle of the narrow tickle. A few minutes' examination convinced us that Boulter's Rock was not one of the best harbors on the Labrador. It is open to the pack and also to northeast and easterly winds. This opinion was confirmed when later two Labrador fishing schooners followed us in, and, having anchored, ran quarter and bow lines to the shore and pulled in as far as the depth of water would in safety permit. I soon realized the wisdom of this extra precaution. Running pans of ice detached from the main pack were soon bearing down upon us. Few people realize the rock-like weight and hardness of ice, and its consequent crushing power. Strange to think of ice as a mineral, yet at a temperature of 32° Fahrenheit it has a hardness of 1.5, which increases at lower temperatures. In plain words it is as hard as a mineral known as gypsum. Since its specific gravity is about 0.92, it floats with a little more than nine tenths of its bulk submerged. A common-sized pan of ice, fifty by thirty by thirty, against which a ship bumps, grinds, and pits her strength day after day, weighs two million, two hundred and eighty-seven thousand, five hundred pounds! A symmetrical iceberg, two hundred and fifty feet long and two hundred feet wide, has the prodigious weight of five billion pounds! In comparison with such a weight, the Bowdoin is almost microscopic. Are we surprised, then, that strong ships, caught between the relentless jaws of two approaching ice fields, have been crushed flat, and even turned completely inside out? Safety, in the face of such a danger, depends more upon one's experience and one's judgment than upon the material strength or design of the ship.

The Cossack, which followed us into the tickle, tried two anchorages, but finally left altogether for a better harbor up the bay. On Saturday, July 14th, the ice opened sufficiently to enable us to proceed northward by way of Domino Run and Indian Tickle. Thus far, although in the height of the season, we had seen not more than a dozen schooners. The absence of a sail, and the inactivity noticeable at every settlement, indicated a tremendous decline of the once great fishing industry of Labrador. How different from my first visit fifteen years ago when there were a thousand vessels on the coast and fifteen thousand transient fishermen! And in greater contrast the fleet of 1867, when three thousand vessels were counted sailing through this same run! In its more prosperous days the total summer catch of codfish has amounted to six hundred and fifty thousand quintals!

Upon arriving at the northern end of Indian Tickle we found an apparently unbroken field of ice stretching northward from White Point. Realizing that the height of our crow's-nest or ice barrel was only sixty-five feet above the deck and our vision extremely limited, I decided to go on. Owing to the thickness of sea ice, leads are often concealed and what looks like a solid pack is often easily negotiated. We had no difficulty in covering the twenty miles to Gready, but, upon arriving in the harbor and intending to berth beside a schooner at the end of McCrea's dock, we were informed that it would not be safe because of running ice. That morning a stage head had been destroyed and lay scattered along the shore. We anchored at Watering Cove just south of the harbor entrance. Here the holding ground is good, but protection doubtful, since the Cove is exposed to drift ice and northerly winds. A view from Wireless Hill revealed Hamilton Inlet ice-packed to the limit of vision with hardly a glint of open water.

On Sunday, the 15th, Goddard went into the fishing station to find if possible the site of an old magnetic station of forty-two years before. Such stations are generally designated by a hole drilled in the top of a ledge. The particular one, for which we had minute directions, could not be found, but, with the help of an old fisherman who well remembered the visit of the Americans about forty years ago, another one was found within a few feet of the corner of the main dwelling-house of the station. Here Goddard did his work so near to the kitchen that he was invited in to dinner.

The next day the Seniff, the Labrador mail boat, arrived with a goodly number of shore fishermen going northward to their stations and also gold prospectors, excited by reports of gold discovered in Stag Bay. From the hill we watched the Seniff working through the ice and knew by her progress that the Bowdoin could do nothing against such a pack. In the afternoon three fishing schooners arrived, followed by the auxiliary schooner Sylvia II, also bound for the gold fields. The entry of the last was a bit amusing. Long before she could be seen, we could hear the irregular firing of her engine and the stentorian 'Starboard' and 'Port.' To our surprise there were at least four men in the rigging, and to our astonishment all were full-bearded! The rather trim-looking schooner and full-bearded crew were an enigma to us until our visit later on when we learned that the schooner was a 'fisherman yacht' and the crew Englishmen, also headed for Stag Bay. This hitherto little-known and remote spot beyond Cape Harrison would never hold, nor feed, nor even welcome to its inhospitable shores all we met yearning to reach the pot of gold at the end of the rainbow.

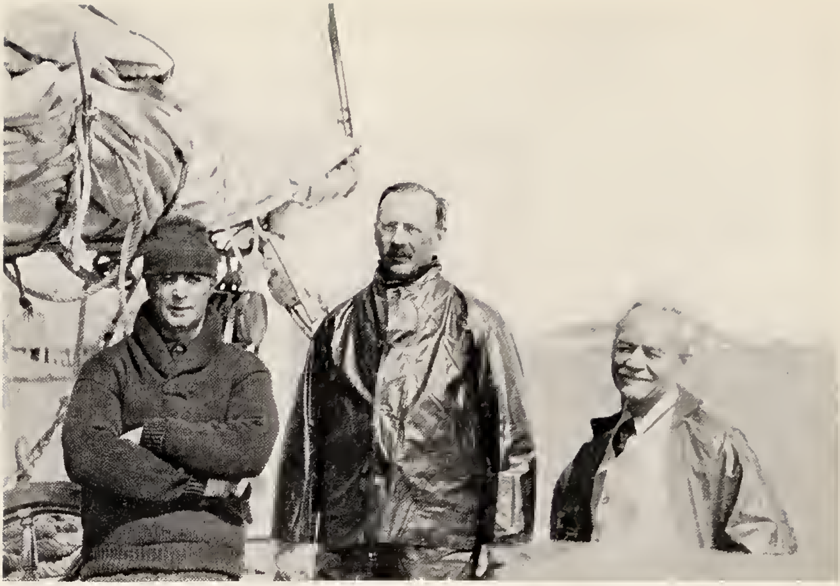
Gready, historically, is replete with interest. Undoubtedly it takes its name from James Gready, one of Cartwright's men. In fact, the nomenclature of this whole section dates back to that most interesting trapper, trader, settler, and keen sportsman, Captain George Cartwright, who settled at Ranger Lodge, Charles River, near Cape Charles, in August, 1770. In 1775 he built another station on a point of land in Sandwich Bay, naming it Paradise. He also named Venison Harbor, Venison Island, Devil's Cove, Eagle River, Separation Point, White Bear River, Fill-Belly Island, Cartwright River, Cartwright Harbor, Mount Martin, Collingham Island, and Alexander River.

An excerpt from his intensely fascinating journal republished by Dr. Charles Wendell Townsend, of Boston, is of especial interest to Americans, as it reveals a bit of generally unknown history of the Revolutionary War:

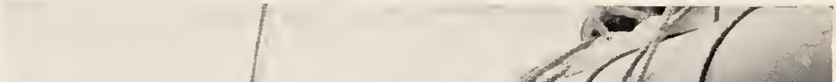
> *Wednes., August* 26, 1778. At three in the afternoon a ship was discovered to the eastward of the Sisters, standing in for this place; I sent Mr. Daubeny off to her, in a skiff with four hands, and soon after perceived, that she had my baitskiff in tow.
>
> *Thursday, August* 27, 1778. At one o'clock this morning, I was alarmed by a loud rapping at my door, which when I opened, a body of armed men rushed in; they informed me that they belonged to the Minerva privateer, of Boston in New-England, commanded by John Grimes; mounting twenty nine-pounders, and manned with a hundred and sixty men; and, that I was their prisoner. They then demanded all my keys, took possession of both my vessels; also the Otter, then full of goods which she was going to land from the brig, and of all my stores which were on shore. About nine, the Minerva worked into Blackguard Bay, and came to an anchor there. I then went on board her, and was received with civility by captain Grimes; who told me that, some days ago, he had entered Temple Bay and taken three vessels from Noble and Pinson, which he had filled with fish, and stores from the shore and sent off for Boston. He said that many of the fishermen had entered with him; among whom were two men who had lately lived with me, and who had informed him where I lived. From thence he went to Charles Harbour, where he had taken one vessel from Mr. Slade, another from Mr. Seydes, and had plundered my possessions there and

WESTERN ENTRANCE TO BATTLE HARBOR

BATTLE HARBOR, LABRADOR



Captain MacMillan; Gilbert H. Grosvenor, President of the National Geographic Society; and Dr. Wilfred T. Grenfell, head of the Labrador mission



Dr. Grenfell at the wheel

ON BOARD THE BOWDOIN

at Ranger Lodge; at the former place another man who lived with me last year, and one of my solmoniers at the latter, had entered with him. I requested the releasement of Mr. Daubeny, who was kept prisoner on board, but he would not grant it. He sent an officer and a party of men in my baitskiff to Caribou Castle, to plunder there also. The skiff was piloted by that villain Dominick Kinnien, who went baitmaster of her for the first time yesterday, and who, together with his whole crew of six men, had entered with the privateer's people the instant they got on board. In the course of the day, they shipped what was in the Otter on board the Countess of Effingham, and in the evening sent her off for Boston. In going out of the harbour, they ran her on shore off the low point on the east side, but soon got her off again, and went to sea through the north-east passage. In the night I slipped a skiff out of the harbour with four hands, to inform the boats, and order them to go into North Harbour, in Table Bay.

Monday, July 12, 1775. At five in the afternoon, James Gready, and his two hands returned from Charles Harbour in a sealing-skiff of mine. He informed me, that a small American privateer of four guns had gone into Twillingate this spring, and there taken a vessel, laden with old fish, belonging to Mr. Slade of Poole, and had given all the goods which were in his stores, to the poor inhabitants of the place; that from thence she had come to Battle Harbour on this coast, and had taken a sloop of Mr. Slade's with about twenty-two tuns of seals' oil on board, and destroyed his goods there; that a good many seals had been killed on this side of Chateau; but that most of the posts within the streights had lost the greatest part of their nets, and killed very few seals. That at my post in Charles Harbour, any number might have been killed; they were in such plenty. That every body on this side of Trinity were in the utmost distress for provisions, from the depradations of the privateers, as no vessels had arrived from England. He informed me likewise, that twelve men had been lost the last winter upon this coast, by the severity and badness of the weather; that there were plenty of codfish to the southward, but no salt; as no other vessel but Slade's sloop had yet arrived. He also told me, that John Baskem had taken possession of my salmon-post at Port Marnham, and that all my houses in, and near Charles Harbour had been broken open and plundered by the English crews in that Neighbourhood; that Coghlan's crew at Sandhill Cove had killed above a hundred tierces of salmon, and had still strong fishing.

Friday, August 20, 1779. At one this morning, I was greatly alarmed by one of my people knocking at my door, and telling me, that I was taken again; for that a stout ship was an anchor in Blackguard Bay, and her boat was gone to take possession of my ship. On opening the door, I saw her riding abreast of my house. I immediately ran out, without stocking or shoe, to hide some guns; sending the man to do the same by my plate. On returning to the house for more, I found an officer in possession of it; but he soon relieved me from my fears by informing me, that the ship was his majesty's sloop of war, Marten, commanded by Thomas Durell, Esq. At the same time he delivered me a letter from his captain, and another from John Becher of London Esq. He then returned on board, and I to bed again; but the alarm had put my spirits into such an agitation, that I could not close my eyes. At six o'clock I went on board the Marten to pay my respects to captain Durell; soon after, she got under weigh, and captain Kinloch piloted her into the harbour; where she moored. I shipped two hogshead of furs on board the Marten, to be carried to St. John's for fear of accidents here, and spent the day on board with her captain. I sent a man out a deer shooting, upon the Cape land, but he saw none.

Saturday, August 21, 1779. Captain Durell was so obliging as to give me the assistance of some of his people, who put a new mainmast and boom into the Beaver, and did some work on the Countess of Effingham; also the captain and his purser dined, and spent most of the day with me. The boats came in at night without a fish; and it was a double mortification to me, to reflect that much about this time last year, when I was visited by that accursed privateer, I had venison, curlews, and other good things in the greatest plenty; but, now, when friends were come, I had not one morsel of anything but salted provisions to set before them; the weather likewise was too bad to get anything.

Tuesday, July 17th, was disagreeable — thick fog and raining. We visited the Sylvia II, owned by Major Butler, and were heartily welcomed and entertained by him and his genial associates. We found the craft to be a modified fisherman, built in Newfoundland of soft wood as usual, but somewhat reënforced for ice work by iron sheathing for'ard. Her quarters, especially her main cabin, were very comfortable. She is an auxiliary with a 35 H.P. Lathrop.

Later in the day Major Butler returned our visit bringing with him his pocket chronometer for correction by our nightly time signal from Annapolis, U.S.A.

At three-thirty the next morning we were on our way, working out into the pack of Eskimo Bay, now known as Hamilton Inlet, named after Sir Charles Hamilton, Governor of Newfoundland, by Captain William Martin. At a point near the Bird Rocks, sixteen miles from Gready, we found the pack unbroken and desisted from further attempts. With an ice anchor we rode to the edge of a floe awaiting a change in conditions which must inevitably occur with wind and tide. A black dot in the ice field well astern indicated that the Sylvia II was attempting to follow us. She arrived in two hours and moored to the same pan. Evidently Major Butler and crew were considerably worried over the outlook and a besetment, for within an hour after breaking their tiny ice anchor the Sylvia II squared away to leeward for shelter in a neighboring harbor. From our ice barrel I could see evidence of a slow change, and now and then caught the glint of open water, sufficiently encouraging for us to make a second attempt. At 5.30 P.M. we were at anchor in front of Dr. Grenfell's hospital at Indian Harbor on the north shore of the Inlet. Dr. Paddon and his assistants came on board at once to bid us welcome and to do everything possible to render our visit enjoyable.

I never fail to drop anchor in this comfortable little bight with its black, serrated border of jagged trap, capping what geologists term Domino quartzite. The whole setting is of interest — Charlie Jerritt's white-painted fishing station; the buildings of the Deep Sea Mission; Pomeroy's Island, and in the distance the wireless pole of Smoky Tickle, from which Peary sent his now famous telegram, 'Stars and Stripes nailed to the Pole,' the beginning of a most unfortunate and bitter controversy. Local interest is also heightened by a knowledge of the fact that here Sir Leopold McClintock, famous Arctic explorer, anchored in H.M.S. Bulldog on August 24, 1860. He was at that time engaged in surveying a route for a North Atlantic telegraph between Great Britain and America.

At ten the next morning we were again on our way, passing through Cut-Throat Tickle and up for the White Cockade inside of Coffee Island. By 5.30 P.M. we had covered the forty-five miles to Cape Harrison. A strong southerly wind with portending black clouds on the southern and western horizon induced me to anchor here for the night. The name of our anchorage was not in the least encouraging in the event of bad weather — Wreck Bay. With the wind from this quarter, however, nothing need be feared, therefore, I dropped quickly to sleep.

The patter of rain on the cabin house and the lapping of water against the quarter of the Bowdoin brought me to my feet about midnight. The wind had changed to northeast and we were on a lee shore. Although dark as a pocket, we must move and move at once. All hands were called and within a few minutes were on deck in oil clothes. I decided to run over under the lee of Webeck Island, about a mile to windward. With no lights of any kind to guide us, outlying rocks both on starboard and port, and such darkness that the shores of the island could not be seen, it was not an enviable job. Fortunately before going to bed I had noted compass bearings. To stop to sound would result in a drifting from the straight course, but sound we must. Twice we sounded and twice I put the Bowdoin back on her uncertain course. When Webeck looked like a great black wall directly over the bow, we 'let go' in five fathoms. I ordered the mate to give the Bowdoin thirty fathoms and turned in.

At daybreak we discovered that we were slightly out of position and changed to a more secure anchorage in the event of a bad easterly. Hanging to our stern through the night was a small power boat also equipped with sails

— three more gold-seekers from Newfoundland in a vain search for the world of riches. One of the three proudly displayed a small piece of gold-bearing quartz — undoubtedly gold, but this, I learned, was brought from the interior by a Montagnais Indian.

With heavy weather outside, a day here would not be wasted. Robinson, McCue, and Jaynes planned a hunting trip into Rocky Bay, since we were in need of fresh meat. They returned at night with a young seal and two trout, so small they were really a curiosity. Saturday, the 21st, was not promising, but start we must with fifteen hundred and more miles to go. Anchor was up at 2 A.M. With southerly wind and rain we headed northwest past the Ragged Islands, Kidlialuit, Uigoklialuit, and Cape Makkovik, and laid a course through the ledges for West Turnavik, the fishing station of the Bartletts, anchoring in the punchbowl of a harbor at 9 A.M. The Labrador mail boat, Seniff, arrived a few hours later, here to await the arrival of the southern mail boat, Sagona, for a transfer of mail, passengers, coal, and supplies.

I had been in Turnavik many times, but never long enough to test the truth of a prevailing rumor and Eskimo tradition, that here the Norsemen landed and lived for a time. The name given to the island would lend to the tradition a semblance of truth; for the Norsemen were known to the Eskimos as 'Tunit,' a people who came from distant lands in their large open boats. The derivation of the word admits of two solutions. 'Tunnu' means in the Eskimo language 'back.' The Norsemen were described by the Eskimos as people having broad flat backs; hence possibly the application of the term. The natives of Baffin Land informed me that the Tunit were in the habit of living on the inward side of the island or point of land, on the opposite side from them; therefore, they were called 'Tunit.'

The 'Tunit' of Labrador sounds suspiciously like the

'Tornit' of Greenland, a multitude of evil spirits, really the very heart, or foundation, of the primitive religion of the Eskimo race. Such are ever present and are consequently ever feared. Since these spirits live in out-of-way, inaccessible, and especially wild-looking places, the 'Tunit' of Labrador are not to be accepted as the traditional Norsemen until a thorough investigation has been made. Tunnivik, or Turnivik, where we were anchored, translated, means the 'place of the Tunit.' What evidence is there that the Norsemen once inhabited this island?

Tom Evans, a local character, volunteered as guide. Passing up a tiny valley, we arrived at a mass of accumulated débris at the base of an inferior cliff, such as might be caused by the action of frost in the spring of the year. Beneath this there was one very good natural cave which had unmistakable signs of having been inhabited, in that the roof was blackened by soot and evidence of a fire still remained. Within twenty feet there was a second cave formed in practically the same way, but somewhat enlarged by a built-up wall of rocks. As to these caves being Norsemen dwellings, there is nothing certain. Both caves might have been built by a wrecked ship's crew or by fishermen or Eskimos who had lost their boat.

A regular 'northeaster' on Sunday, July 22d, kept us in port. Here we lost another member of our party, the last of our guests, Mr. Sheldon Fairbanks. He had thoroughly enjoyed the trip and hated to leave as much as we disliked to see him start homeward by the next southbound boat.

By eight the next morning we were at full speed for the Eskimo village of Hopedale. The way is beset with bad ledges and several dangerous underwater rocks. The chart is of no aid whatever, everything north of Indian Harbor being imperfectly surveyed. Anticipating such a trip as the one on which I was now engaged, I had spent three summers in these very waters to acquire a knowledge of the coast. On the passage we met one boatload of my old Eskimo friends, who recognized the Bowdoin and deviated from their course to yell cheery greetings. By one o'clock we were at anchor in front of the Moravian Mission Station, the American flag snapping at our main truck in honor of that devoted band of men who had given so many years of labor to the natives of the coast. When Jens Haven, Moravian missionary, stretched out his hands to the Eskimos at Carpunt with the words, 'I have long desired to see you! I am your countryman and friend!' it was an epochal event in the history of these people. Up to that time life was not safe on the Labrador. Whites were plundered and murdered and in retaliation Eskimos were shot as wild animals.

The work of the Moravians has never ceased from that day. Through the storms of the North Atlantic and through the drift ice of the Labrador their ships have persisted on their way. Not a year has been missed. Not a ship has been lost. Their trials are little known. The long and persistent fight of the Moravian has been waged not so much against sin and for the salvation of souls, as against the encroachments of civilization with its evil practices and particularly its malignant diseases: smallpox in 1774; violent vomiting and profuse sweats in 1825; measles in 1828; malignant influenza in 1842; famine in 1846; whooping-cough in 1876; whooping-cough and measles in 1880 and 1882; typhoid and syphilis in 1894; and the great influenza in 1919 which actually exterminated whole villages.

Such is but a very small part of the history of the struggle to keep and perpetuate the Labrador Eskimo. To-day there are six stations, namely, Nain founded in 1771; Okak in 1776; Hopedale in 1781; Hebron in 1829; Ramah (now discontinued) in 1871; Makkovik in 1900; and Killinik in 1905. The Eskimos have dwindled in numbers from a possible three thousand to eight hundred.

Largely a half-breed race now, with the coming years its identity will disappear entirely, merging into the great white race.

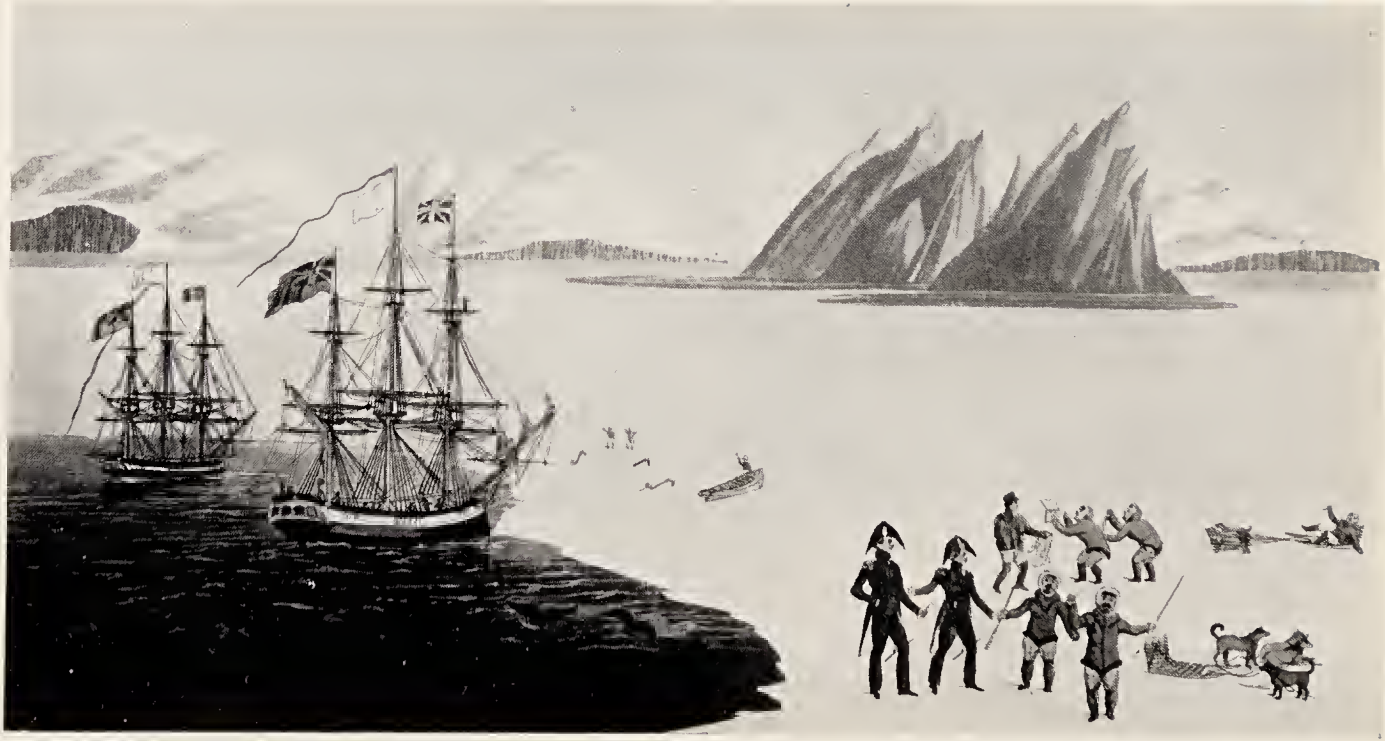
Mr. Perritt, general superintendent of the Moravian Mission Stations on the coast, was away at Makkovik, the southern station. We were warmly greeted, however, by Mrs. Perritt, a friend of many years' standing. To her we entrusted the charge of a new radio set presented by Mr. Jones, of Boston, a visitor to the coast the preceding year. In the evening we had the pleasure of entertaining with motion pictures as many Eskimos and whites as could be packed into the forecastle of the Bowdoin. All were intensely interested in the wonderful pictures and especially in the work of the more northern Eskimos.

As a commentary on the initiative and enterprise of our own early fishermen, it is of interest to learn that the first Americans arrived here as early as 1822. But prior to this, even before we won our Independence, Captain Charles Swayne of Philadelphia, while searching in the ship Argo for the Northwest Passage, visited and explored the Labrador and Baffin Land coasts from 56° to 65° North Latitude in 1753. The earliest visit of which there is any record is that of Captain Henry Atkins, of Boston, in 1729. On the passage home from Davis Strait, whither he had gone in pursuit of the whale, he called at several places on the Labrador coast and traded with the Eskimos. Here is another feather in the cap of the adventuresome New England sea captain, who seems to have gone practically to all parts of the known world.

Noo-ka-ping-wa

Abram Bromfield

TWO DOG-DRIVERS



CAPTAIN ROSS'S FIRST MEETING WITH THE NATIVES OF PRINCE REGENT'S BAY, AUGUST 10, 1818
Drawn by John Sacheuse, an Eskimo who had visited Scotland

CHAPTER IV

WE FOLLOW THE ROAD OF THE NORSEMEN

On Tuesday we headed northward through Black Head and Windy Tickle for Jack Lane's Bay, where Abram Bromfield was again to join us as interpreter and dog-driver. In emerging from the northern entrance to Windy Tickle we found the water so shoal that it was a foregone conclusion we should never get through on the dead low water, since this run was charted at nine feet. The Bowdoin was drawing ten! The dead low is the opportune time for navigating any uncertain bottom, since grounding means but a short delay. I therefore from the crow's-nest kept the Bowdoin on her course, deviating now and then to avoid a suspicious 'hump' or boulder. To my surprise we sailed out into the clear blue water of Davis Inlet.

Davis Inlet, named after the great English explorer, John Davis, has undoubtedly been confused in the minds of geographers with one described by Davis when he cruised southward along the coast in July and August of 1588. Just where he landed will never be known, but of a certainty it was not at Davis Inlet. In latitude 56° (eight miles north of Davis Inlet) he arrived at a good harbor and 'sailed ten leagues into the same, being two leagues broad with very fayre woods on both sides. I landed and went sixe miles by ghesse into the country and found that the woods were firre, pineapple (!!), alder, yew, withy and birch; here we saw a blacke bare; this place yieldeth great store of birds. Of the partridge and pezunt we killed so great store with bowe and arrows; in this place at the harbourough mouth we found great store of cod.' Although that was three hundred and thirty-seven years ago, everything mentioned is still here but the pineapple!

A league is three miles; therefore, Davis sailed up the inlet he describes for thirty miles and found it to be six miles wide. Davis Inlet is seven miles long and one mile wide, in fact one of the smallest inlets on this whole stretch of coast. The largest inlet in this vicinity is in 56° 18′, known as Lessingabssoak among the Eskimos and among the whites.

We then turned to the left and headed up Kangiksualuk or Big Bay. From afar the Bromfields had recognized the Bowdoin and were anxious to learn whether we were to remain there for the year or proceed northward. We decided to remain here for the night to give Abram an opportunity to arrange for a year's absence. Heavens, the mosquitoes! But being no strangers to Labrador, we fully expected the most direful onslaught and were not pleasantly disappointed.

At 5 P.M. on July 25th, we left our anchorage and proceeded out of the bay and out to sea, which we found packed with drift ice. When crossing Davis Inlet Run a small boat was descried dead ahead with a coat spread on two crossed oars to attract our attention. Evidently we were wanted. I slowed down, and as we came up alongside one of the two men delivered to us a pair of sun glasses which I had left in the wireless station at Battle Harbor. The operator there had requested Captain Burgess, of the Sagona, bound north, to return them to me if he should happen to overtake the Bowdoin. The Sagona reached Turnavik the day after we left. The glasses were given to the captain of the Seniff with the same request. The Seniff was then at anchor in Windy Tickle, and, suspecting that we could be intercepted on our exit from Jack Lane's Bay, the mate and a fireman had rowed on and were awaiting us. I cite this simply as one of many cases of kindness experienced on this coast.

In two hours' time we had worked through the pack to seaward. The Labrador coast dropped lower and lower.

At last only the Kiglipaits and old Cape Mugford remained, and soon we were alone heading for the Estotiland (Greenland) of the old explorers, possibly in the same track and on the same course as that sailed by Leif, son of Eric the Red, on his return from Vinland to Greenland, some four hundred years before Columbus discovered America, if the sagas are to be believed. But how striking the contrast between ships and equipment! The clinker-built, undecked boats, ill-fitted for the relentless ice pack; no power, no charts, no sextant, no chronometers, and not even a compass! The Bowdoin with white pine watertight decks, white-oak timbered and planked, sheathed with ironwood, reënforced for'ard with steel sheathing, 60 H.P. oil engine, comfortable cabins, electrically lighted, in communication with the world through wireless, best of charts, best of sextants, finest of chronometers, and spirit compasses corrected for deviation to the tenth of a point!

How did these daring Vikings of the Northern seas find their way from shore to shore? They didn't! In the light of facts their feeble efforts at real navigating are ludicrous. Iceland was discovered accidentally by ships blown out of their beaten track to the Faroë Islands. Greenland was discovered by ships blown from Iceland. America was discovered by ships blown from their track to Greenland.

Naddodd the Viking sailed from Norway, his destination the Faroë Islands. He landed in Iceland! The Norwegian Gunnbjorn, son of Ulf Kraka, sailed from Norway for Iceland. He discovered Greenland. Seventy-five ships sailed from Iceland for Greenland. Only fourteen arrived. Leif Ericson sailed from Greenland for Norway. He landed in the Hebrides. He sailed from Norway for Greenland and landed somewhere in America, it is believed, but just where no one knows.

We learn something of the Norsemen's crude methods from the saga of Hauksbok and Sturlubok, narrating the experiences of Floki Vilgerdarson: 'Folki then sailed to the Faroe and there gave his daughter in marriage. From her is come Sevnd in Gata. *Thence he sailed out to sea with three ravens.* . . . And when he let loose the first it flew back astern. The second flew up into the air and back to the ship. The third flew forward over the prow, where they found land.'

With great interest we learn that they did use the sounding lead: 'Then certain Norsemen, namely Ingolf and Hjorleif, fled thither from their native land, being guilty of homicide, . . . and resorted to this island, which was first discovered by Gardar and afterwards by another and found it at last *by probing the waves with a lead.*'

When sun and stars could not be seen, the Norsemen wandered aimlessly, not knowing whither to go. That their landfalls were uncertain was to be expected.

Even John Cabot, as late as 1497, states that he sailed around the mouth of Iceland and for the new world 'with the Pole Star on his right hand.' No one knows to-day where he landed and what land he really discovered. It was probably Nova Scotia, Newfoundland, or Labrador. From the southern point of the first to the northern point of the last is a matter of four hundred miles of latitude! Martin Frobisher discovered Frobisher Bay in 1576. Upon this land the Queen bestowed the name of 'Meta Incognita.' It remained a 'Meta Incognita' for two hundred and seventy-four years. This was placed upon the maps as being upon the *east coast of Greenland* and here it remained for *two hundred and eighty-four years.* When found by Charles Francis Hall in 1860, it was in Baffin Land over seven hundred miles to the west! You will remember that the Pilgrim Fathers sailed for Virginia. Their landfall was Cape Cod, a mistake of three hundred miles in latitude!

So one might go on indefinitely. Frisland was Greenland; Greenland was Labrador; Labrador was Newfoundland; Newfoundland was joined to the West Indies; the West Indies were a part of India; Baffin Land was a part of Asia; the St. Lawrence River led to Cipango (Japan). All was a confused jumble and so distorted in shape, due to an ignorance of magnetic variation, that only a genius with a vivid imagination can solve the riddle.

At 10.30 P.M. the fog was so thick that I took the precautionary measure of stopping our engine and jogging along slowly under sail until daylight. We were not yet clear of the track of icebergs brought down by the polar current which hugs the eastern shores of Baffin Land and Labrador. The fact has long been recognized by Arctic men that the eastern waters of a channel, strait, or sea, lying north and south, are invariably most favorable for navigation. While its waters are entirely free of ice, the western waters and coast are completely blocked. Is this due to the eastward revolution of the earth upon its axis? This seems to be the only plausible explanation. Therefore, this was my reason for heading northeast toward the Greenland shore and not due north for Baffin Land. Once through the Labrador pack, theoretically we should encounter no more ice until we were within fifty miles or so of Greenland. This ice is of an entirely different nature from the polar ice that comes southward along the eastern shores of Greenland, at from five to fifteen miles a day, circles around Cape Farewell and flows northward to about latitude 64°, or to a point twenty miles south of Godthaab, our objective point.

A knowledge of this current has been existent for the last six hundred and seventy-four years! In the 'King's Mirror,' published about 1250, we find the following:

> Now in that same sea (i.e., the Greenland sea) there are yet many more marvells, even though they cannot be accounted for witchcraft (Shrimslum). So soon as the greater part of the sea has been traversed, there is found such a mass of ice as I know not the like of anywhere else in the world. This ice (i.e., the ice-

floes) is some of it as flat as if it had frozen on the sea itself, four or five cubits thick, and lies so far from land (i.e., from the east coast of Greenland) that men may have four or five days' journey across the ice (to land). But this ice lies off the land rather to the north-east (Landnorr) or north than to the south, south-west, or west; and therefore anyone wishing to make the land should sail round it (i.e., round Cape Farewell) in a south-westerly and westerly direction, until he is past the danger of (encountering) all this ice, and then sail thence to land. But it has constantly happened that men have tried to make the land too soon, and so have been involved in these ice-floes; and some have perished in them; but others again have got out, and we have seen some of these and heard their tales and reports. But one course was adopted by all who have found themselves involved in this ice-drift (isavök or isavälkit), that is, they have taken their small boats and drawn them up on to the ice with them, and have thus made for land, but their ship and all their other goods have been left behind and lost; and some of them have passed four or five days on the ice before they reached land, and some even longer. These ice-floes are strange in their nature; sometimes they lie as still as might be expected, separated by creeks or large fjords; but sometimes they move with as great rapidity as a ship with a fair wind, and when once they are under way they travel against the wind as often as with it. There are, indeed, some masses of ice in that sea of another shape, which the Greenlanders call 'falljökla.' Their appearance is that of a high mountain rising out of the sea, and they do not unite themselves to other masses of ice, but keep apart.

The fog lifted at 2 A.M. on Thursday the 26th. Fair wind still continued. At midnight we had covered three hundred and sixteen miles of our six hundred to Greenland. Friday evening, beginning to meet floe bergs, we knew that we were in the stream belt contiguous to that coast. Jaegers, both parasitic (*Stercorarius parasiticus*), and long-tailed (*S. longicaudus*), were constantly following and hovering over us. At four the next morning land was 'close aboard.' The wind was now ahead and had been heading us for some time, causing us to fall to leeward of our course. Standing off on the starboard tack I examined the shore minutely with the glass and descried a deep bay, the entrance of which was well studded with breaking reefs. According to our sights, which had checked up our dead reckoning, this must be the southern run to Godthaab, which lies between Simiutak and Ikatok. Upon a near approach a wooden marker was discovered upon a prominent point, which strengthened our opinion. A snug little haven opened out on the southern side of a large island on the port hand. Here we anchored to explore our surroundings a bit and find Godthaab if possible.

Greenland and Labrador, with their perfect maze of outlying islands forming a network of runs and inlets, are extremely perplexing to a navigator entering upon the coast for the first time without the aid of a native pilot. I well remember an incident of my earlier days when I endeavored to locate an Eskimo village by the hoped-for howling of its dogs at night. They slept; I failed to find it.

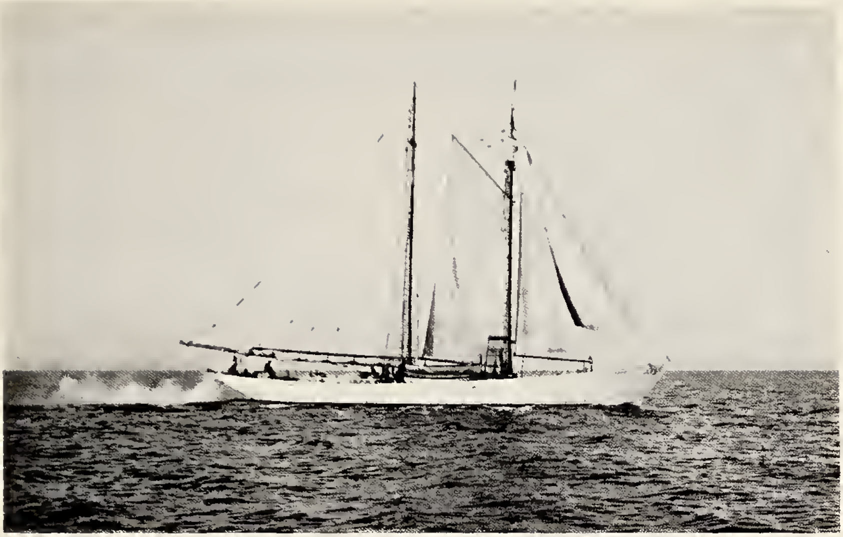
It may be of interest to note that our landfall in the Bowdoin was near the Gilbert Sound of John Davis, who in 1585 really rediscovered Greenland, which had been 'buried in oblivion for more than two centuries.' The reception of this stranger, the first white to appear among them following the disappearance or total extinction of the Norsemen, affords us a true picture of the character of the Innuit or Eskimo race prior to the advent of the missionary and civilization.

In refutation of statements made by certain well-known explorers as to the superiority of Eskimo morals and customs over our own and as to the expressed hope that civilization might never be the lot of their favorite tribe, an even cursory study of the works of our earliest explorers will suffice to prove that such a comparison, if it can be called such, is mere nonsense. Without exception, all early travelers found all Eskimo tribes to be thieving, lying, immoral, unmoral, and filthy. This is a strong statement, but it must be made in the interest of truth as much as I admire the character of my many Eskimo friends who have traveled with me for thousands of miles, and have shared with me the dangers and privations as well as the pleasures and contentment of the Northland.

Where were we? Ascending a neighboring hill I scanned the shores of the numerous islands and the mainland minutely with my binoculars for the least sign of habitation. Within a few minutes I descried a neat little red-roofed village dominated by a church spire snuggling over against the mainland, distant possibly three miles. Goddard was immediately recalled from his magnetic work and the boys from their rambling over the hills.

We proceeded through the islands under power to a point opposite the settlement, which proved to be Narssak, a sub-station of Godthaab, five miles to the northward. The ever-watchful eyes of the natives had discovered the Bowdoin when well down the channel. Two trim-looking kayaks shot up alongside. The occupants, plainly half-breed Eskimos, volunteered to act as pilots through the intricate run to the capital of the district. This short trip was of especial interest to me for many reasons. First, because it was the so-called 'inside run,' an entering by the back door, so to speak. Second, because of the extreme ruggedness of the great granitic hills and peaks towering above our decks for thousands of feet, absolutely wild-looking in their character, easily imagined to be the fitting abodes of the evil spirits of the natives, the many tales and traditions concerning which we can readily conceive to have been real to primitive man. And, third, because of the rich historical background of the locality, possibly the wealthiest in all Greenland.

With much interest we peered into the deep Ameralik Fiord, bordered with its abrupt rock walls, and imagined Fridtjof Nansen and Sverdrup thirty-five years before in their crude brush-canvas boat pulling vigorously seaward at the finish of their daring forty-five days' journey across



HEADING FOR GREENLAND SIX HUNDRED MILES AWAY

ICEBERGS OFF DISCO

THE BOWDOIN ENTERING THE GODTHAAB FIORD

the great Greenland ice cap. And at the head of this fiord were also the remains of the 'Westerbygd' of the lost Norse colony of the tenth century. How I longed to investigate the ninety homesteads in this and neighboring fiords! The cause of their total disappearance has long been a matter of conjecture. Did the occupants migrate to Baffin Land or the Labrador and were they exterminated by the hostile natives? Or did they incur the enmity of the 'Skraelings' in this vicinity? There is still a tradition here of a feud and the extermination of the last hated 'Kabloonak' or white man. The most rational explanation is an interbreeding of the two races, the superiority in numbers of the natives, a loss of identity and complete disappearance of the visitors. Such could readily be accomplished during the six hundred years' interval between their settlement in Greenland (980) and the visit of John Davis in 1585. King Christian IV of Norway dispatched an expedition in 1605 and also again in 1606 in search of the Osterbygden or Eastern Settlement and the Vesterbygden or Western Settlement. Not a trace of the two thousand people was found; not even their homes, now known to be in the district of Julianehaab and Godthaab.

Beyond the Ameralik Fiord the scenery was on an even grander scale. Above our heads towered the Hiorte Tak, or Stag's Horn, a peak 3900 feet in height. Over the bow across the Kangerdluarssuk Fiord were two others, one 2000, the other 2496 feet, the horns of the well-known Saalberg or Saddle Hill. Seen at a distance of a hundred miles at sea, this mountain serves as a beacon to navigators, and also as a barometer or weather guide to the natives, for when bad weather threatens, like many another mountain along this coast, it displays its white flag, a clinging cloud or light mist. The impressive grandeur of the coast exceeded even that of northern Labrador. We seemed and felt fairly microscopic as we crept along at the base of these great black sentinels of the North, the same that looked out upon the Norsemen nine hundred and forty-two years ago, upon the three ships of John Davis in 1585–86–87, upon Bylot's tiny Discovery in 1616, upon brave Hans Egede entering Baal's River in 1721, upon American, Norwegian, English, and Scotch whalemen and upon English, American, and Norwegian explorers. There they will remain through the ages, pondering over the ambition of man.

As we rounded the northern point of Kangerdluarssuk Fiord and headed for Nuk (Godthaab), the three masts of a ship were discovered projecting above a rocky point. Having studied the chart I recognized the location as the back harbor of Godthaab, and decided to anchor there rather than at the village itself, where the harbor is exposed to northerly winds and currents.

The rounding of the point disclosed what appeared to be a British tramp steamer, flying a Danish flag, unloading coal into lighters. The point itself resembled an antheap, with its huge pile of coal and scurrying Eskimo men, women, and children, all black with coal dust. As the Bowdoin popped into view every coal basket was dropped, and there was a scampering to the back of the point to get a better view of the stranger. A wild yell of delight greeted our entrance. Was it simply a demonstration of exuberance of spirits, in spite of the fact that they were working hard at a coal pile, or was it the force of habit of greeting their own ships laden with the goods of civilization? Since the crews of ships are not allowed on shore and Eskimos are forbidden to board ships, this greeting was the more surprising.

As it was the purpose of the expedition to establish as many new magnetic stations as possible and also to reoccupy former stations, Goddard began his work promptly the next morning on a small island one hundred and fifty yards distant. The results derived from such study are of great value in ascertaining the horizontal and vertical intensity of the earth's magnetism, especially in consideration of the fact that very little work of this character has been attempted in the Far North.

During the day, the Governor of Godthaab, Mr. Christian Simony, accompanied by a Miss Blickfelt to serve as interpreter, came on board the Bowdoin to inquire as to our purpose in visiting the port.

Denmark has a treaty with other nations, so remarkable in many ways that it deserves publication in a work of this kind as desirable information for yachtsmen or tourists contemplating a trip to Greenland.

The General Manager of the colonies in Greenland makes known:

According to the regulations recognized by treaties made between the Royal Danish Government and the United States of America, Great Britain, France, Belgium, Sweden, Norway, and other states, all the coasts of Greenland and all adjacent islands are closed to navigation to foreign vessels (*as well as to Danish vessels*), unless special permission has been obtained from the Danish Government which holds the monopoly of trade in Greenland.

According to Danish law, any vessel sailing to Greenland without leave shall be liable to be seized, wherever met with, and the vessel and cargo to be forfeited. Similar punishment may be applied where any person is found trading with Greenlanders or Danish Colonists from any vessel lying in any port of Greenland or off the said coast.

Any shipmaster compelled by shipwreck or similar cause to seek refuge in any port of Greenland shall remain in port only as long as is absolutely necessary, and he shall obey any order given him by the local authorities.

At the same time the shipmaster shall be held further liable if any of his crew without necessity remain on shore at places that are permanently or temporarily inhabited, or if they carry on any trade with the natives, or if they hold any intercourse whatever with this native population.

Watering without special leave in Greenland ports on the aforesaid coasts and islands by vessels, including whalers, whether Danish or foreign, shall take place only at the colony of Holstensborg in South Greenland, at the colony of Upernavik and the settlement of Godhaven in North Greenland. A shipmaster is subject to the following conditions:

That any shipmaster when proceeding on his voyage to Greenland shall be provided with a Bill of Health from the local authorities of the port of departure, the said Bill of Health to contain a statement not only as regards the general state of health at the port of departure, but also as regards the health of each separate person on board, proved by a medical examination of the whole crew (especially as regards venereal and other contagious diseases.) The said Bill of Health must be viseed by the Royal Danish Consul or Vice-Consul (if any) at the port of departure.

On arrival of the vessel at any of the aforesaid watering places, whichever is first, the said Bill of Health shall be delivered by the shipmaster to the Superintendent of the Colony, together with a bona fide declaration signed by the shipmaster to the effect that since the day of departure of the vessel from the port where she received her Bill of Health to the best of his knowledge no case of any contagious disease has occurred on board, nor any case of venereal disease has occurred among the crew. If the vessel carries a surgeon, a certificate from this officer in lieu of the said declaration may be delivered.

The Superintendent of the Colony receiving the said declaration or medical certificate shall give the shipmaster a certificate acknowledging the receipt, which shall be produced as legitimation by the said shipmaster before any other Greenland authority with whom he may have to deal on the same voyage.

If there be any contagious disease on board any vessel, the Greenland authorities shall take all necessary measures to prevent the disease from spreading among the native population and may order the vessel to proceed to another watering place. The shipmaster shall at once obey all orders given him by the said authorities.

In order to avoid the spreading of any disease it shall be prohibited to dispose of or sell any used wearing apparel, used bed clothes and similar things to the native population of Greenland or to the Danish Colonists.

The prohibition against navigating on Greenland and the monopoly of trade purport to protect the native population of Greenland which would be threatened with ruin in case contagious diseases should spread among them, or in case it should be permitted to import alcoholic drinks or similar goods.

The foregoing orders and regulations of the General Manager are conclusive upon all vessels navigating on Greenland and watering, etc. in the aforesaid ports.

Copenhagen, 16*th June*, 1921.

Having known for years that such were the conditions imposed upon a visiting ship, I had obtained through the Carnegie Institution of Washington, special privileges for the Bowdoin. Although having no official papers from the Danish Government, we were accorded every courtesy and the 'Keys of the City,' so to speak.

On Sunday night we invited Governor Simony and his wife, and other Danes in Godthaab, on board the Bowdoin to see several reels of motion pictures, the first ever shown in Greenland. All were astonished that on such a small ship we should have such excellent facilities for providing an evening's entertainment. This was made possible by our electric equipment and compact portable projectors.

Monday was a full day. The Danes of Godthaab were so hospitable that we all felt that we should like to be nearer to our hosts. Therefore we got under way and proceeded under power to an anchorage directly in front of the Chief Inspector's house and but a few yards from the public landing-place. Invitations to luncheons and dinners were so readily and gladly accepted that we were considerably embarrassed upon learning that we were expected at two places at the same time; but not more so than a charming Danish lady who by chance happened to learn that we had accepted her invitation to dinner or supper (we didn't know which) when she had extended no invitation at all. One needs a secretary in Greenland as well as at home! To relieve the all-round embarrassment, Mrs. Nissen, the wife of a teacher in the University, insisted upon our coming to her home at three o'clock for both dinner and lunch. Accordingly we passed from one room into the other, each of which contained a table fully spread.

At six o'clock we were eating again as guests of Mr. and

Mrs. Balle, of the Godthaab University. To find such a well-equipped school with such a varied course of study almost within the shadow of the Arctic Circle was indeed a surprise. The most promising young men of the various settlements are selected to be trained here as teachers and ministers for their own countrymen.

Invitations to all the children in this Eskimo-Danish village to be aboard the Bowdoin at four-forty-five were broadcast through the streets. They came in boats loaded to the gunwales, dressed beautifully in what is now their national costume — wide lace and beaded collars, a brightly colored checked upper garment, soft glossy sealskin tight-fitting knee pants, and red-and-white boots of almost elaborate workmanship. Bright-tinted dyes are used largely in coloring their sealskins, the resulting ornamental effect being most striking. A beautifully dressed woman resembles an impressionistic view of a miniature garden of bright-colored flowers, all blending harmoniously.

When these Eskimo children, eagerly expectant of something novel, were all tightly squeezed into our forecastle, we shut out the light and flashed on the pictures, a reel of varied scenes in the United States and abroad. Their absorbing interest was of far more interest to me than any movie I had ever seen. And their outlook upon life was broader from that day on! Already they had seen pictures of horses, elephants, tigers, etc., but these were alive, moving, working, eating! And here were American youngsters, laughing, talking, playing! These scenes took them far away from 'Greenland's Icy Mountains' to the great sunny world to the south, with its immense activity. What a pleasure to bring pleasure to little ones in such remote places!

In the evening we were invited to the school gymnasium to a typical Greenland ball, such as I had read about in books of Arctic exploration. It was certainly a novel scene of whirling color and intense activity. The dances, mostly round, and now national, are a strange conglomeration of Eskimo, English, and Danish, the chief features of which were introduced by the English-Scotch sailors of the great whaling fleets of 1818–98. The memorable thing about it all was the exuberant vivacity and the rapidity of motion of the trim-looking half-breed girls. Their dress, ideal for dancing, accentuated every motion.

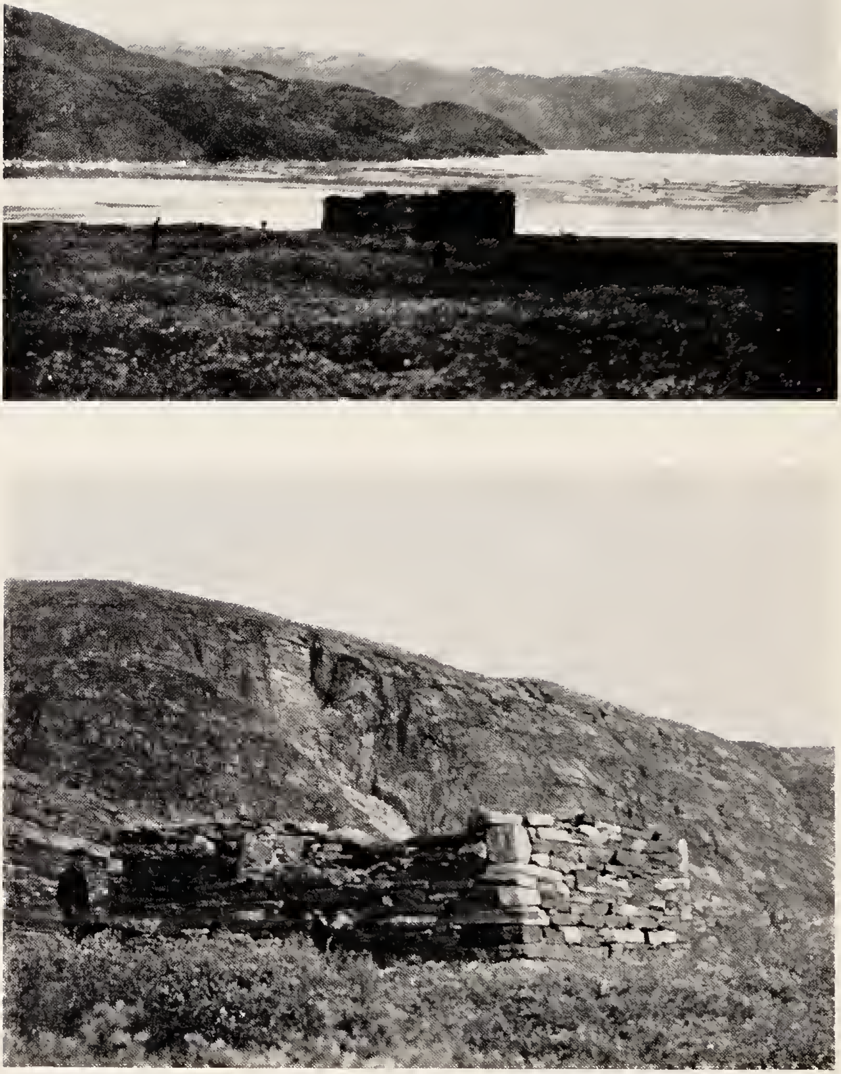
From a vantage-point above the village and looking down upon this mass of whirling colors, smiling faces, happiness, health, was the bronze statue of Hans Egede, Greenland's first missionary. On July 3, 1721, this brave and devoted soul landed on a neighboring island with his *wife and children,* believing that he had a mission to the posterity of the Norse settlers of seven hundred years before. When we remember the hostility of the Eskimos toward the whites, as shown by the experience of the Norsemen, John Davis, Bylot, Hall, and numerous others, our admiration for Egede increases.

Encouraged by what this missionary accomplished, King Frederick IV decided to colonize Greenland. In 1728 two armed vessels and two transports were dispatched with material for a fort of twelve guns. There was also a governor, a captain, a lieutenant, twenty-five soldiers, and eleven horses. In addition to this, and far more dangerous than any item of the foregoing list, *ten male and ten female convicts* were married by lot and ordered to settle among the natives! This was putting leaven in the lump with a vengeance. Egede's buildings were moved to Nuk (Point), the present site of Godthaab. Before that first winter had passed the convicts utterly upset all theoretical attempts at colonization. The soldiers needed the fort and the guns for self-protection, not against the savages, but against their own race. And added to mutiny was disease, as was to be expected, and also starvation. Upon the death of King Frederick of Denmark, his successor, King Christian VI, decided to discontinue all attempts at trade, re-colonization and reformation. All were ordered to return. Help for missions was withdrawn.

Egede prevailed upon a few men to remain for a year, and wrote to the King begging for permission to remain and continue his work. His request was granted, thus beginning Denmark's interest and great work in Greenland. Since 1774 the trade has been a royal monopoly; consequently, the above copy of the restrictions imposed upon foreign and even native ships.

Here at Godthaab the Moravians began their missionary work in 1733, calling their settlement Ny or New Herrnhut. Five years of self-denial, privation, suffering, and labor resulted in only one convert. Old Tornasuk, the evil spirit of the Eskimos, is a formidable adversary. Their work continued to grow in power and finally resulted in four chief stations with several outposts. At the present time all Moravian work in Greenland has ceased. The buildings stand deserted, surrounded by the semi-subterranean rock igloos of their fold, most of whom have passed on.

GODTHAAB AND THE STATUE OF HANS EGEDE



RUINS OF A NORSE CHURCH AT THE HEAD OF GODTHAAB FIORD

CHAPTER V

WE CROSS THE ARCTIC CIRCLE

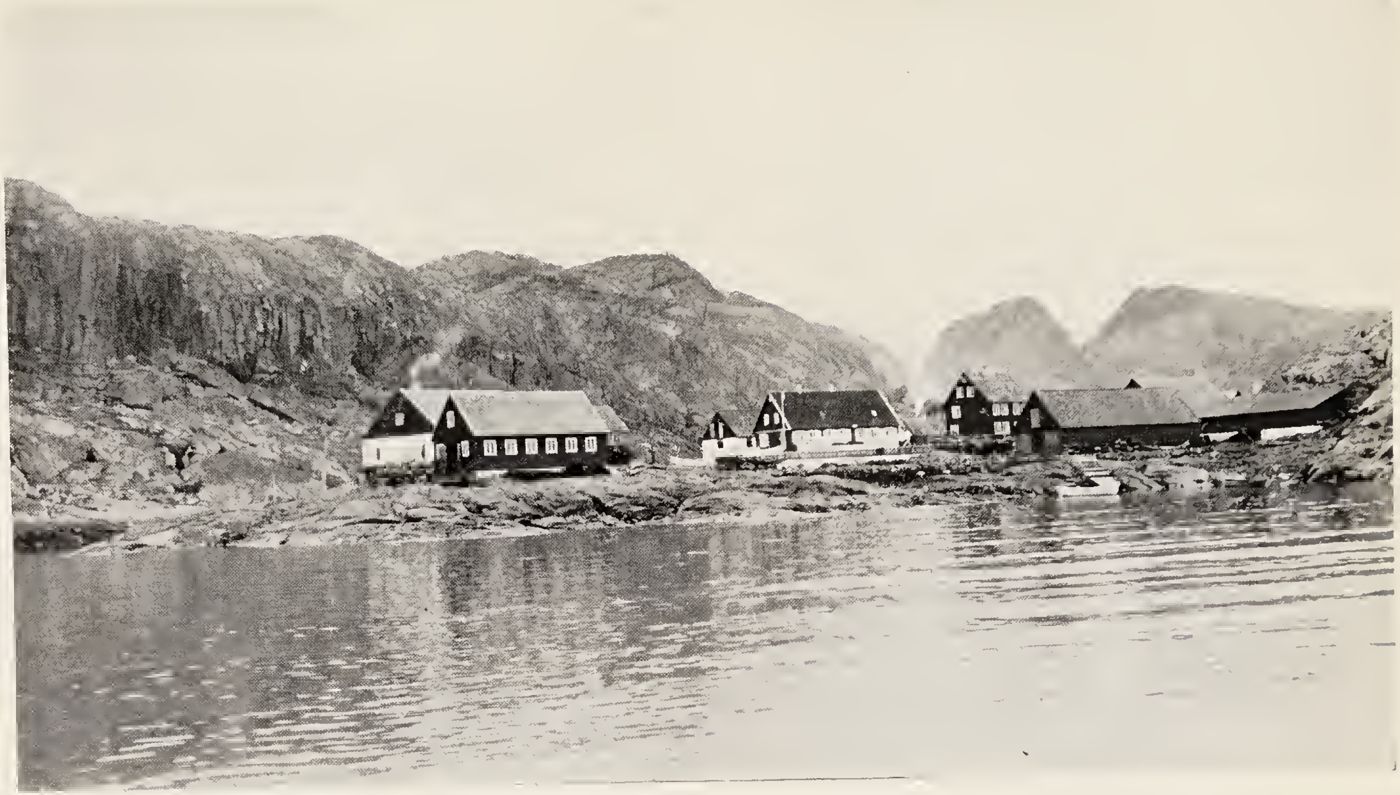
On Thursday, July 31st, we were away, with a reluctant good-bye to all our Godthaab friends, and headed out through Ball's River toward the open sea. Ball's River, the Gilbert Sound of John Davis, due to many sunken rocks and reefs, is not easy of navigation in clear weather. We were unfortunate in encountering thick fog before we were halfway out. The wash of waves on ledges could often be heard before being seen! We succeeded, however, in clearing the last shoal spot and then headed northward again for Fretum Davis or Davis Strait.

During the night we passed what was formerly known as the Colony of Zukkertop (Sugar-Loaf), now known as Sukkertoppen, so-called from three conical peaks. Sukkertoppen recalled to mind the memorable trip of the unfortunate Miranda in 1894, an American expedition under the direction of Dr. Frederick Cook. In passing out of this harbor on her way northward the ship struck a sunken reef. The damage was considered so serious that a return was deemed necessary. A further examination revealed the fact that it was highly imprudent to proceed either north or south. The party of ninety-three, consisting of college professors, ministers, students, and men of various other professions, was marooned in North Greenland. Fortunately there was a Gloucester fishing schooner on the coast, the Rigel, under the command of Captain Dixon. She was hastily summoned from a neighboring port. The captain magnanimously agreed to discontinue his fishing trip and stand by the Miranda on her homeward voyage. The steamer proceeded with the Rigel in tow loaded with her human freight, whose quarters were the ill-smelling hold. Their bed was fish. Two hundred and eighty-two miles south the Miranda was abandoned, and, with wheel hard over and under steam, disappeared in the darkness. The party eventually reached Sydney, Cape Breton, thus ending a never-to-be-forgotten experience.

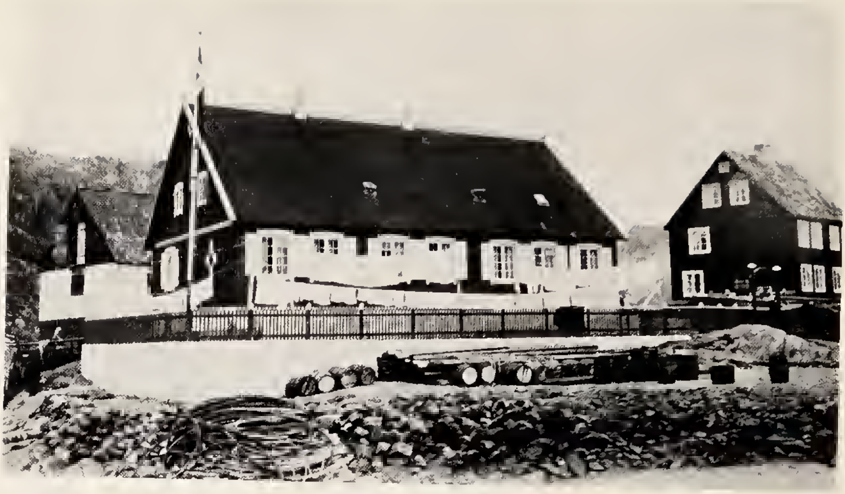
At four o'clock the next morning we were bucking a heavy head sea under jumbo, foresail, and engine power, bound off shore on the starboard tack. To increase the length of our wireless antenna, a short bowsprit had been added to the Bowdoin. I had made a mistake in permitting this to be flat; consequently, I feared exactly what happened that morning. The Bowdoin plunged into the hollow of a sea, and when she emerged the bowsprit was gone and the antenna a complete wreck. Nothing could be done toward repairs until we reached a port. The Bowdoin was now making so little headway that attempt at further progress entailed a tremendous waste of valuable fuel oil, oil needed for the homeward passage a year later.

We tacked and stood for land and the nearest port, which by our dead reckoning should be Simiutak. Within an hour great black hills and deep fiords could be faintly discerned, gradually taking shape as we approached the shore. A small boat with two Eskimos was descried, evidently halibut fishing. We slowed down our engine and signaled them to come aboard, which they did with considerable alacrity, proud of the opportunity of piloting a vessel into harbor. A kayaker had also anticipated this privilege, for he appeared suddenly alongside at about the same time. It was truly a thrilling sight when he raced us for the harbor entrance, riding from the crest of a wave into the hollow of the sea, with the rapidity of an arrow. That it required all his skill to navigate his tiny skin boat was very evident.

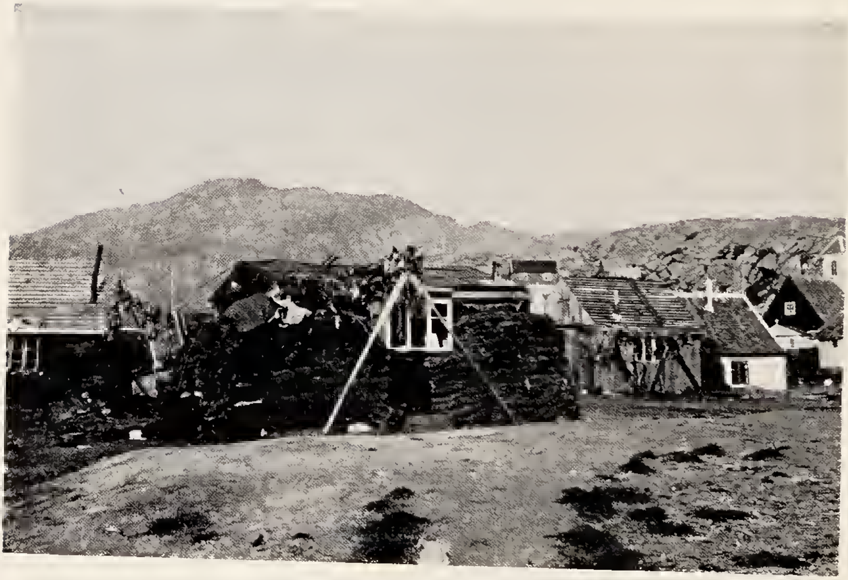
The harbor, which proved to be Simiutak, at a distance resembled a jumbled mass of rocks; a deception not at all



THE HARBOR OF SUKKERTOPPEN



HOUSE OF THE GOVERNOR AT SUKKERTOPPEN



A TYPICAL SOUTH GREENLAND HOUSE
Made of imported lumber banked with sod

uncommon in Greenland and the Labrador. A nearer approach, however, revealed a quiet shelter and good opportunities for running quarter lines to the shore to prevent the Bowdoin from swinging.

We were instantly surrounded by a weird assortment of Eskimo degeneracy. Many of the individuals would have confused the most learned of anthropologists as to their racial identity. Here were white, black, brown, and blond. The variety which interested me most and was so different as almost to deserve the designation 'species,' was the short, squat, full-bellied, freckle-faced, *red-haired* Eskimos. I had met in my travels black, kinky-haired, half-negro Eskimos, and blue-eyed, light-haired whites, but never before an Eskimo with red hair and freckled face. A prophetic picture of five hundred years hence of the whole Eskimo race of some thirty thousand souls, stretching from the Bering Straits to the eastern shores of Greenland, was here presented for our inspection and contemplation. Among the ten thousand natives in Greenland to-day, I venture to assert that there is scarcely a full-blooded Eskimo. Some seventy years ago it was roughly estimated that thirty per cent were half-breeds. To-day, especially in South Greenland, there is an unmistakable trace of foreign blood in every face.

Our anchor was hardly down when a power boat flying an enormous Danish flag shot out of a hole among the rocks. A gentleman of huge girth, red hair, and flowing beard introduced himself in broken English, Danish, and Eskimo, as the one in charge of this little outpost, really a halibut station. We explained as best we could the object of our visit, and delivered to him a letter to the Inspector of the district. For the remainder of the day boats were coming and going between the shore and the Bowdoin, some loaded to the rail with women, but not one daring to step upon our decks — Government orders. A visit to the shore was of interest. We found it literally covered with fresh halibut and halibut backbones. The fish are purchased from the natives and 'fletched' (a removal of all bone). The clear meat is then salted in casks and shipped to Copenhagen.

During the day McCue replaced our broken bowsprit with one much more substantial. Robinson and Jaynes in the Mullins steel motor boat found a clear stream of cold water from the hills and soon had our tanks filled. At four-forty-five in the morning we were away once more, avoiding two underwater rocks reported some years ago, which I am confident do not exist, else they would have been breaking in the rough sea the day before. In navigating unknown waters a rough sea is always preferable for this reason — it never fails to reveal its own dangers. Where white water cannot be seen, it is safe for the Bowdoin of ten-foot draft to hold her course.

Gulls, ducks, and seals were increasing. Even two large whales rolled their black backs lazily above water, a reminder of the stirring days of yore when Dundee and Peterhead sent out their big fleet of strong-built ships manned by adventurous men. At 10.30 A.M. we bumped over the Arctic Circle, which was a new experience for three of my men, Jaynes, Mix, and Lewis. The others had all been with me the year before in Fox Channel, when exploring and mapping the western coast of Baffin Land. It may interest the reader to know that this imaginary line was called by the ancient Greeks the 'Bear's Circle,' hence our name Arctic from the Greek word meaning bear. A circle drawn through the constellation of the Great Bear was the limit of stars always visible to the Greeks above the northern horizon.

When Cape Burnil, through which the Arctic Circle passes, was abeam, Robinson rang the bell, Jaynes blew the air whistle, Bromfield fired his rifle, and I pumped the patent fog horn. The mate's watch below, aroused suddenly from sleep by such an outrageous noise, rolled hastily from their bunks and clambered up the forecastle ladder, appearing on deck in much abbreviated costume and blinking like owls. 'What the h ——!' was plainly written on every face. Their countenances relaxed noticeably at the sight of a row of filled glasses on the cabin house. A toast was drunk to a successful trip and safe return.

At six o'clock on the morning of August 3d, we hauled in for Disco Island in beautiful clear weather with bright sunshine. I reluctantly decided to pass Godhavn, the Lievely of the whalemen, well remembering the hospitality of Inspector Lindenow and Professor Porsild in 1917.

Disco, the largest island on the West Greenland coast, is two hundred square miles in area and four thousand feet in height. Inside of this island is the wonderful Waigatt Run, bordered by highlands strikingly picturesque and of interest because they contain many beds of bituminous coal, extending for hundreds of miles beneath the trap formation. Some eighteen to twenty outcrops have been reported in this vicinity and will doubtless be of considerable value in future years. As coal is of vegetable origin, it comes as a great surprise to the average man to learn that such vast deposits are found not only in this section of the North, but within five hundred miles of the Pole itself! One seam of coal, at Water Course Bay on the east shore of Grant Land, was reported to be from twenty-five to thirty feet thick. This thickness would represent a peat bed five hundred feet thick! Since the rate of the accumulation of coal is about one and one half inches in a thousand years, two hundred thousand years were required for the building of this bed. What a storehouse of potential energy is locked up in those great snow-covered hills of the North! True, at the present time but a small amount is available, yet who dares to predict that all of it will never be used right on the spot?

Of the nine thousand or so fossil plants recorded, one fourth have been found in coal measures. By an examination of the coal beds of the North we may learn much of its physical characteristic millions of years ago, which are found to be in striking contrast to its present condition — a continent capped with five hundred thousand square miles of ice attaining an altitude of nine thousand feet. What do we find? Sixteen hundred and eighteen fossil plants, most of them from that very place, the Waigatt Passage.

It is almost a shock to learn that on those hills, now buried in ice, grew at one time the following trees: poplar, beech, oak, walnut, maple, fig, eucalyptus, sumac, laurel, aralia, sassafras, ilex, cassia, magnolia, tulip, cinnamon, sycamore, persimmon, dogwood, buckthorn, the giant sequoia and redwood. There can be only one conclusion — that is, at one time a warm climate prevailed, not only here at Disco and vicinity, but throughout the Arctic regions. It is the opinion of certain scientists that climatic zones did not exist; that the climate of the world was uniformly equable and less diversified than now (Cleland). This was the physical condition of Greenland during the so-called Carboniferous period, which culminated in the Great Ice Age. Let the reader conjecture as to the location of the North Pole at that time.

On Saturday, August 4th, we saw our first midnight sun. We had left all darkness behind us. For the next eighteen days we should enjoy continuous sunlight. Before us lay 'the whole mirror of the sea — the edge of the earth — the source of primeval night, where the vault of heaven ends, where lies the ancient garden of Phœbus.' Such we find in Sophocles' tragedy. According to an old Greek conception we were in the land of the Hyperboreans. 'They dwelt under the shining way, north of the roaring Boreas, so far that this cold north wind could not reach them, and therefore enjoyed a splendid climate. They did not live in houses but in woods and groves. With them injustice and war were unknown, they were untouched by age or sickness; at joyous sacrificial feasts, with golden laurel wreaths in their hair, and amid song and sound of the cithara and the dancing of maidens, they led a careless existence in undisturbed gladness, and reached an immense age. When they were tired of life they threw themselves, after having eaten and drunk, joyfully and with wreaths in their hair, into the sea from a particular cliff.'

We were off Svarten Nuk, the farthest north of John Davis on June 30, 1587, in his wretched little 'clincher,' the Ellen, of barely twenty tons; 'wretched' because of the fact that she was leaking three hundred strokes in four hours! And here he named a 'mighty' cliff, on the starboard bow thirty miles distant, 'Sanderson, his hope of a Northwest Passage,' after Mr. William Sanderson, one of his patrons. He reported 'no ice towards the North, but a great sea, free, large, very salt and blue, and of an unsearchable depth.' It was unchanged after three hundred and thirty-seven years.

We were on the borders of the dreaded Melville Bay of old — a body of water to be carefully navigated in May and June and early July when great unbroken fields weighing countless tons, under the influence of strong winds, impinge against the edge of the fast ice entrapping all ships unfortunate enough to be between the masses. Such a mischance happened in 1857; a southerly wind drove the pack down upon the whole whaling fleet. Two were crushed and ground into bits. In 1830 twenty-two ships met the same fate, one known as the Race Horse being literally turned inside out and her keel forced up through her deck!

On the night of August 5th the entire circle of the Bay lay in sight from our position in 75° N. and 60° 30′ W. Southeast of us were the well-known landmarks, Wilcox Head and the Devil's Thumb; abeam Red Head, and off the starboard bow Cape Seddon with its memories of a dark winter night in January, 1915, when, wet, half-frozen, and half-starved, we crawled through the long passage to the comfort of an Eskimo igloo.

Was it possible that we were to encounter no ice at all in our run to Cape York, one hundred and fifteen miles distant? That we were to have a year such as those of 1881, 1893, 1908, and 1913, when Northern waters were remarkably and entirely free of ice? It seemed too good to be true.

Gigantic icebergs, however, were numerous as they always are in this section, upon which the whalemen have bestowed the name of 'The Bergy Hole.' Such are to be feared only in thick fog and darkness. As we passed to leeward of a tremendous flat-topped mass, our dogs jumped to their feet and stood attentively with erect ears and sniffing noses. A careful examination through our long glass failed to reveal what their actions indicated — a polar bear. The whole curve of the Bay was now in sight, a panorama of black headlands, a variegated border of the Great White Ice Sahara burying the continent of Greenland.

At seven in the evening we met our first little auks or dovekies (*Alle alle*), the hardy little 'pine knot' of the New England coast. I never feel that I am really in the Arctic until I see the surface of the sea dotted with these black-jacketed, white-waistcoated, plump little edible morsels of the Eskimos. It is of interest to stand at the bow of the ship and study their motions under water when interrupted in their feeding by the thump of the propeller — an actual flying, since the wings are worked vigorously as an aid to the webbed feet. The startled look at the sight of the ship upon emergence is truly comical, and is generally followed by an instantaneous disappearance and an erratic zigzag course under water away from the path of the ship. When the dovekies are congregated in countless numbers on the talus slopes at the site of their breeding-places, their com-

DRIFTING OFF TO THEIR DEATH IN SOUTHERN SEAS

HALFWAY BETWEEN THE ARCTIC CIRCLE AND THE NORTH POLE

ICEBERGS AS FAR AS THE EYE CAN REACH

mingled melodious notes, now swelling in volume, now dying to a gentle musical murmur, is a real Northern symphony, portraying life, abundance of life, and more life, even here in the so-called Frozen North.

Although our direct course to Cape York was apparently free of ice, I decided to take no chances with the pack and planned to encircle Melville Bay inside of the drift which I knew to be driving off the land under the influence of the northerly wind. This is the so-called 'North Passage' of the Scotch whalemen. In reality, for the navigator in July and August, there is no such 'North Passage,' or 'Middle Passage,' or 'Southern Passage,' dwelt upon at length by so many writers. At this time of year the pack is a heterogeneous mass moving with the prevailing winds to any point of the compass. One's course, therefore, must necessarily be determined by taking this fact into full consideration.

Not until well beyond Cape Walker and headed west did we encounter any ice at all, and this very much broken up, permitting an easy passage through the numerous leads. That we were extremely fortunate may be judged by the fact that many another expedition at this same time of year has consumed weeks in doing what favorable conditions enabled us to do in a day. Captain Erasmus Penny, in command of the Lady Franklin and the Sophia of the Franklin Search Expedition of 1850, crossed in five weeks, arriving at Bushnan Island on August 12th. Peary, on his first trip, crossed the Bay in twenty-three days; on his second trip in twenty-five hours, a difference which clearly shows the uncertainty of ice conditions from year to year. The steamship Fox, under McClintock, began the passage on August 8, 1857, three days later than our own entrance into the Bay. She was beset on the 17th and remained so for two hundred and fifty-three days. She was released on April 26, 1858, having drifted 1385 miles southward. She renewed her trip and succeeded in crossing the Bay in twenty-seven days. The North Star was beset on July 30, 1849, to the southward of Melville Bay. Fast in the pack she was carried *northward* across the Bay, and then some seventy miles westward, where she was released on September 26th.

At 11 A.M. on August 6th, we arrived at Cape York, tying up to the fast bay ice within a few yards of the end of the Cape. This point was first reached by Captain John Ross one hundred and six years ago, thereby introducing civilization and white men to the Smith Sound tribe of natives. Numerous whaling ships followed during the next forty years, one ship, the North Star, wintering at North Star Bay in 1849–50. In spite of such facts we find explorers asserting that these people had never seen white men until 1853. Many a man has yielded to the temptation to claim a discovery of what was discovered many years before — a feeble and futile attempt to acquire fame.

The tupiks or tents of the Eskimos could be seen a quarter of a mile distant across an intervening stretch of ice. Three long blasts of our air whistle summoned four kayaks around a neighboring point, the long-haired, fur-clad occupants yelling lustily at the sight of the Bowdoin. A nearer view disclosed the well-known features of Ah-now′ka, and —— a stranger! The latter proved to be a teacher-missionary who had visited Borup Lodge at Etah during my absence on the long spring trip in 1914. They were made welcome, fed abundantly, and consequently made happy. They had much to tell me. No ship had succeeded in reaching them in 1921 and 1922 because of unusual ice conditions. Many of our friends had died, victims of the great influenza epidemic of 1918–19, which seems to have invaded all parts of the world. Two of the four now famous Eskimos who had accompanied Peary to the Pole were dead, Eging′wa and Oo-quee′a. The former died of consumption, judging from a description of his illness, and the latter was drowned in his kayak. Alpood'a-shah'o, my faithful driver for four years, had died of influenza. Many of our other Eskimo friends had migrated to better hunting grounds below Cape York.

As we proceeded northward, I looked upon this snow-capped land of the Innuit as almost a dead world, realizing that it would never again have the same appeal.

We are now beneath the Beverley or Crimson Cliffs of Sir John Ross. When *red snow* was first reported by this distinguished navigator and explorer, scientists and the reading public were inclined to be skeptical. The red in the snow was found by botanists to be a minute air-breathing plant known as *Protococcus nivalis.*

Every point recalled pleasant memories of sledging days. With the eagerness of a child, I scanned the shore minutely for sites of former encampments. Twenty-seven miles north of Cape York, the wonderful little harbor of Ak-pat opened to view, disclosing the dark doorways of the now abandoned igloos in contrast to the rich green slope, the camp-ground of centuries. On a night of all nights, our dogs, eight years before, had trotted into this harbor mouth. Never can I forget the scene: towering black cliffs, like great castle walls, the night clear, cold, sparkling, the steel shoes of our sledges ringing in contact with the harbor ice; at the right the Mer de Glace, shimmering like a bed of molten silver in the full moonlight, awe-inspiring in its stillness, its tremendous power, its purpose; at our left, high above the sea ice, the dull lights of the translucent sealskin windows of Eskimo homes — shelter, warmth, happiness. Hospitality among these people is unquestioned. Lamps were filled with oil, caches were reopened, food was piled up, narwhal, seal, and frozen murres. And then we talked and talked the old year out and the new year in, a memorable ending and beginning.

On our left now was Conical Rock, an islet striking in its blackness and shape, the very top of a submerged mountain, and one of several on this stretch of coast. Of similar type are Round Island, Dalrymple and Bell Rocks, Little Matterhorn, Sutherland, and Cocked Hat Island, near Cape Sabine.

It hardly seemed possible that the 'Great Petowik Glacier' could be six miles in extent across its face. With our rate of progress known and beam bearings, we determined this distance to be not more than four miles.

We were passing a cape known more than three hundred years, in name, Cape Dudley Digges. What a remarkable trip, that of the Company of Merchant Adventurers for the Discovery of a Northwest Passage! Robert Bylot, as master of his ship Discovery, and commander of the expedition, deserves the credit for this famous voyage rather than his pilot, William Baffin. As has happened in the history of many another expedition, the historian has become more prominent and has received more recognition by posterity than the man who alone was held responsible for success or failure. A marked illustration of this is the source of the name America.

To that magnificent great sheet of water between Greenland and Baffin Land, first sailed by Robert Bylot, was given the name of his pilot Baffin, 'that learned and unlearned marriner and mathematitian.' To a small, almost unknown island off the northern coast of Baffin Land was given the name Bylot. The secret of this injustice is undoubtedly in the words: 'Written by William Baffine.'

One extract of Baffin's Journal is of extreme interest at this point of our narrative now that we are upon the far northern threshold of Bylot's important discoveries:

> The first of July we were come into an open sea, in the latitude of 75°40′, which anew reuiued our hope of a passage; and because the winde was contrary, we stood off twenty leagues from the shoare before we met the ice; then standing in againe; when we were neare the land, we let fall an anchor to see what tyde went, but in that we found small comfort. Shortly after the winde came to southeast, and blew very hard, with foule weather, thicke and foggie; then we set sayle, and ran along by the land;

this was on the second day, at night. The next morning we past by a faire cape or headland, which we called Sir Dudley Digges Cape; it is in the latitude of 76° 35′, and hath a small iland close adioyning to it; the winde still increasing, we past by faire Sound twelue leagues distant from the former cape, hauing an iland in the midst, which maketh two entrances. Vnder this iland we came to anchor, and had not rid past two houres but our ship droue, although we had two anchors at the ground; then were we forced to set sayle and stand forth. This Sound wee called Wostenholme Sound; it hath many inlets or smaller sounds in it, and is a fit place for the killing of whales.

The fourth day, at one a clocke in the morning, the storme began againe at west and by south, so vehement, that it blew away our forecourse, and being not able to beare any sayle, wee lay a drift till about eight a clocke, then it cleared vp a little, and we saw our selues imbayed in a great Sound; then we set sayle, and stood ouer to the south-east side, where, in a little cove or bay we let fall an anchor, which we lost with cable and all, the wind blowing so extremely from the tops of the hils, that we could get no place to anchor in, but were forced to stand to and fro in the Sound, the bottome being all frozen ouer; toward two a clocke it began to be lesse winde, then we stood forth.

In this Sound we saw great numbers of whales, therefore we called it Whale Sound, and doubtlesse, if we had beene prouided for killing them, we might haue strooke very many. It lyeth in the latitude 77° 30′. All the fift day it was very faire weather, and wee kept along by the land till eight a clock in the euening, by which time we were come to a great banke of ice, it being backed with land, which we seeing, determined to stand backe some eight leagues to an iland we called Hakluits Ile — it lyeth betweene two great Sounds, the one Whale Sound, and the other Sir Thomas Smith's Sound; this last runneth to the north 78°, and is admirable in one respect, because in it is the greatest variation of the compasse of any part of the world known; for by diuers good obseruations I found it to be aboue fiue points, or fifty-six degrees varied to the westward, so that a north-east and by east is true north, and so of the rest. Also, this Sound seemeth to bee good for the killing of whales, it being the greatest and largest in all this bay. The cause, wherefore we minded to stand to this iland, was to see if we could find any finnes or such like on the shore, and so, indeed, this night wee came to anchor, but with foule weather, that our boat could not land. The next day wee were forced to set sayle, the sea was growne so high, and the wind came more outward. Two dayes wee spent and could get no good place to anchor in; then, on the eight day it cleered vp, and wee seeing a company of ilands lye off from the shoare twelue or thirteene leagues, wee minded to goe to them to see if there we could anchor. When wee were something neere, the winde took vs short and being loth to spend more time, we tooke opportunitie of the wind, and left the searching of these ilands, which wee called Carys Ilands, all which Sounds and ilands the map doth truly describe.

Dr. Elisha Kent Kane was the historian of the First Grinnell Expedition. His most interesting book won him recognition throughout England and America. The name of the real commander is forgotten — Lieutenant Edwin J. De Haven. Not another ship visited these waters for two hundred and two years! The discoveries were discredited, the maps lost or destroyed, the narrative almost forgotten. But Cape Dudley Digges, Wolstenholme Sound, Whale Sound, Smith Sound, Jones Sound, Hakluyt and Cary Islands, remain as reminders of a memorable trip, a daring adventure.

As we passed Cape Atholl and directed our course between Wolstenholme and Saunders Islands, I could see with the aid of a glass Rasmussen's Trading Station at North Star Bay, fifteen miles distant. By midnight we had passed Wolstenholme Sound and were approaching Booth Inlet, well known to readers of Arctic literature through 'An Arctic Boat Journey,' by Isaac I. Hayes. Here in a crevice of the rock, in a place 'barren and desolate beyond description,' the eight deserters of the Kane Expedition endeavored to eke out their existence during the winter of 1854–55. Starving, discouraged, repenting of their action, and in terror of their lives for fear of the natives, they eventually struggled back to the brig at Rensselaer Harbor and were kindly received by Dr. Kane.

With the glasses I swept the shores of Kiatak, Netchealume, Oo-loo-set, and Ittibloo — not an Eskimo. Was the whole country deserted? On the northern end of Northumberland Island was a large settlement. This I learned from the Cape York Eskimos. As we sailed by within a few yards of the shore, I closely scanned every square foot, knowing well how amazingly an Eskimo skin tent is camouflaged against the gray broken background. A slight movement — a dog! Then one, two, three, four — eight! A whole team! The Eskimos must be near. But not a thing could be seen resembling tent or human being. Strange! We proceeded cautiously along shore with one eye on the bottom for ledges and the other following the land. At length from the ice barrel the unmistakable outlines of three tupiks could be seen, their tops projecting above a slight rise.

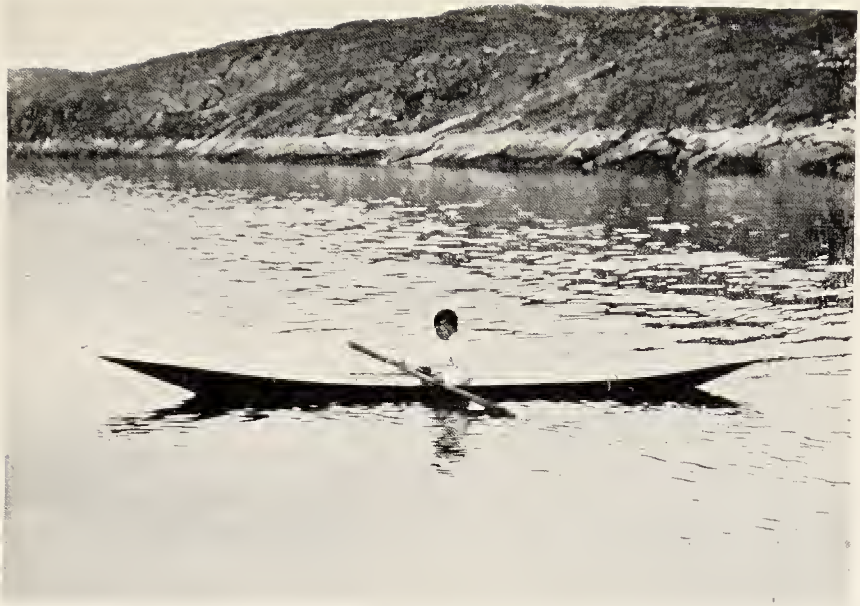
Leaving the Bowdoin in charge of the mate, with orders to 'lay off and on,' I landed in the steel tender among a crowd of women and children, nearly all friends of long standing. In-a-wah′o and Too-cu′ma, two of our girls on the Peary trip of 1908–09, soon arrived running and out of breath from their tents, a quarter of a mile distant. How our tongues wagged as we talked of old times, and how sorrowfully they told me of the death of all our good friends. They soon informed me that their husbands were all away hunting walrus in kayaks. I had anticipated their needs, and brought forth from bulging pockets sticks of candy for the youngsters and pipes and tobacco for the old.

Reluctantly I bade them good-bye, telling them if ice conditions were such that I could not reach Ellesmere Land, I might winter on their coast, just north or south of Etah. When a mile from land we could hear repeated rifle shots. We knew that we were seen by the returning men. Time was too precious, however, to return. Across Murchison Sound lay Ig-loo-da-houny and my old dog-driver, E-took′a-shoo, the best Eskimo I have ever employed. My trip would not seem complete without him.

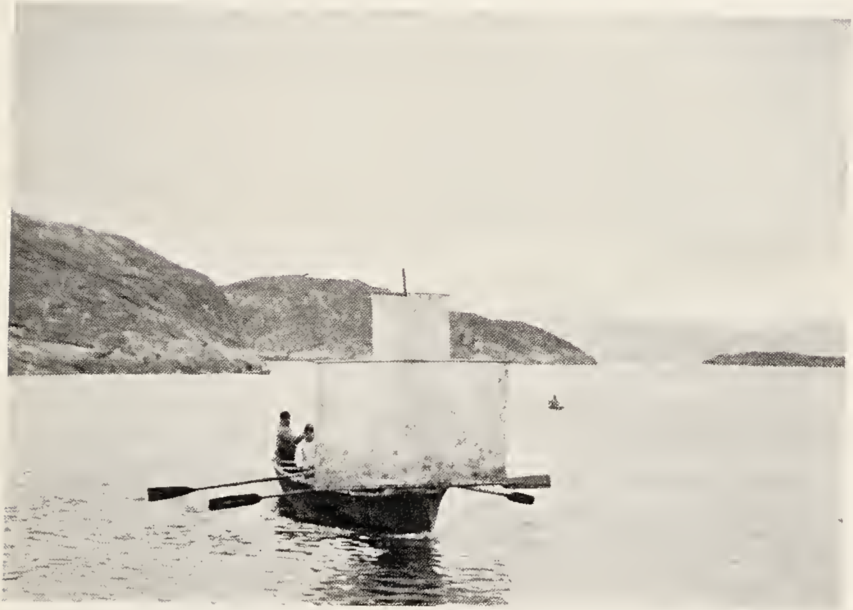
We were upon the scene of Peary's first Northern exploration of thirty-three years ago. As we passed Cape Cleveland and opened out McCormick Bay, the site of Redcliff, Peary's winter quarters, could be seen. Here the 'Snow Baby' was born. At the head of the bay were Sun Glacier and Tuktu Valley, familiar names to Arctic readers, and also Cape Lee, Cape Henson, and the Verhoeff Glacier, named for three of his men.

With a strong pair of binoculars I swept the far shore of Robertson Bay, resting long upon the familiar site of Igloo′da-houny. Not a tupik could be seen. We swung northeast along the shore minutely examining every suspicious-looking rock and mound without disclosing anything remotely resembling a settlement. We had turned and were going west when one of my men called my attention to what resembled a small wooden house a quarter of a mile up the shore. To my astonishment it proved to be such and in a place I had never known Eskimos to be. The truth then dawned upon me, that the Eskimos were avoiding the sites of their old settlements because of the large number of deaths which had occurred during the influenza epidemic, — merely a superstition, yet one which the medical profession would heartily encourage.

It was very evident that the men were away, else they would have been alongside in their kayaks long before. Two dots on the water rapidly rounding Ig-lu-nak′suah Point proved to be E-took′a-shoo and Kanga, tanned almost to a black by the continuous Arctic sunlight. Puffing and sweating they climbed over our rail, and in a few minutes E-took′a-shoo was bound shorewards after his new South Greenland wife, his dogs, his hunting equipment — all the household goods. The last he could easily place upon his shoulder. Learning that Kah-ko-tchee′a, his brother, was at Nerky, the neighboring settlement, I decided to add him to our personnel, thus giving us two dog teams and two good hunters.



THE ESKIMO KAYAK
A beautiful specimen of marine architecture



AN OOMIAK ROWED BY GIRLS AND STEERED BY AN OLD MAN

A SNOW HOUSE WHEN LINED WITH A SEALSKIN TENT CAN BE VERY COMFORTABLE

NERKY, A TYPICAL NORTH GREENLAND VILLAGE

Upon the rock piles in the foreground the meat is placed to protect it from the dogs

No one at Nerky! The same experience as at Ig-loo′da-houny. We finally discovered the three families of Eskimos away up at the head of the fiord, camped beside a babbling brook near the Morris Jesup Glacier, a very attractive spot with its white sand beach and grass-covered slope. In front of their door seals had their playground.

Kah-ko-tchee′a did not lose a minute in deciding whether or not to accompany us northward. Being the white man's assistant removes all uncertainty as to the possible privations of the long winter night to come. There is always the uncertainty of food in spite of the tons of walrus and seal meat cached under the rocks along the shore of their immediate hunting ground. Food cannot be denied any visiting Eskimo family and dogs. If one has plenty, numerous friends and relatives may decide to prolong their visit until spring. Human nature evidently has not made as much progress during the last one or two thousand years as many students of mankind would have us believe.

The Bowdoin now resembled a gypsy wagon, with her heterogeneous deckload of twenty-one dogs, kayaks, harpoons, tupiks, poles, drying racks, and skins. We now headed north for Etah in 78° 20′ North Latitude. When passing Peteravik, the winter walrus ground of the Smith Sound tribe, Kah-ko-tchee′a expressed a desire to take on board some of his meat cached there during the summer, since we had nothing on board for our dogs and possibly would not have for several days. Two dory-loads of ancient-smelling walrus meat added nothing to the tidiness of the decks. But when I recalled our two hundred and fifty dogs and thirty tons of rotten whale meat on the deck of the Roosevelt in 1908, the Bowdoin seemed like a gilded ballroom!

Before us lay Sonntag Bay and Child's Glacier with its memories of camp and many battles with walrus, and beyond Cape Alexander and Cape Isabella, the 'Pillars of

Hercules' of Smith Sound. Just before midnight of the 7th we rounded the Cape with a bright midnight sun bathing every promontory and ice cap in a beautiful soft yellow sunlight. We were upon the threshold of many stirring events in the history of Arctic exploration. Upon our starboard bow the Crystal Palace Cliffs and famous Pandora Harbor. Just beyond was Port Foulke, headquarters of the Hayes Expedition of 1860–61; Foulke Fiord, where Peary wintered in 1899–1900; Littleton Island, which played such an important part in the Kane, Hall, Young, Nares, Beebe, Schley, and Greely Expeditions; Polaris Beach, where the remnant of the Charles Francis Hall Expedition wintered in 1872–73; Cape Sabine of the Greely tragedy; Cairn Point and Refuge Harbor of Kane, with Rensselaer Harbor beyond, echoes of a mighty struggle to disclose the secrets of the Northland.

When going into Etah and long after the anchor had found bottom, I was simply overwhelmed with thoughts of the past. Every rock, every point in that beautiful fiord recalled some incident of our four years' sojourn. The bold escarpment of the north shore, with its gentle green slope culminating in its thousand-foot cliff, was just as beautiful; blues, greens, purples, and reds blended into the pattern of a gigantic Turkish rug. The waters of the fiord were placid as a mirror and reflected the contour of the bordering hills, strikingly black in contrast with the gleaming white of the glacier crowning the head of the harbor and dropping gently into the clear waters of Alida Lake.

The hush of midnight which steals quietly over the Northland as the sun swings along the northern horizon was broken only by the musical sound of falling waters. One point alone was not attractive, the site of our house of 1913–17. It seemed so strange, so unreal to look up and find it gone! Thirty-five feet square, eight rooms, a large comfortable living-room, four bedrooms, a carpenter shop, generator-room, dark-room, all electrically lighted, with double windows, double walls, a real home to welcome us back from long cold trips — now a flat débris-covered slope, 'a tragical vista of pathetic scraps.'

Before turning in, I rowed ashore and stood alone amid the cans and bits of wood and tarred paper. The effect of the silence and the waste was accentuated by the memory of our big living-room filled with happy, laughing Eskimo children, our dining-room piled high with the delicacies of the North, of the hundred dogs swarming about our door, of snapping whips, of arriving and departing sledges, of Jot, Tank, Ek, Hal, Jerome, and Fitz, now busy at their work in the homeland.

Our two Eskimo boys with their wives started up the fiord at once to visit their father, Panikpak, encamped under the dovekie cliffs. In the early morning they were back in a bluff-bowed, clinker-built Danish boat, a family bus, in that it carried the whole settlement of Etah, thirteen in all, including our own five. I was glad to see Panikpak again, in many ways the most remarkable man in the tribe. Quiet and unassuming and in his ways as gentle as a woman, as sprightly as a boy, although sixty-two years of age, optimistic and always cheerful, as shown by the ever-present twinkle in his eye, he is a credit to the Smith Sound Eskimos. He was thoroughly appreciated by Peary, and was employed by him virtually from the great explorer's entry into the Northland in 1891 to the time of the discovery of the Pole in 1909. When questioned as to his thoughts when starving on the Polar Sea in 1906, he replied with a smile, 'We didn't worry. We let Peary do that!' And when questioned by me as to our real purpose in life and as to just why we were here, playing the part assigned to us in the drama of life, he replied, 'I have often thought about it, and wondered why — I can think of one reason only — be kind to each other and help each other.'

These are the thoughts and words of a so-called 'savage.'

CHAPTER VI

OUR GOAL IN SIGHT

Our goal was now in sight. Across Smith Sound thirty miles distant lay Cape Sabine, the scene of the Greely tragedy. I had planned, if ice conditions would permit, to establish winter quarters in that vicinity. With dog team years before I had examined all possible harbors, but a good harbor does not necessarily mean an easy entrance or an early exit in the spring. Payer Harbor, on the very end of the Cape, was out of the question. Its bottom covered with rocks, its winter covering of ice subjected to pressure, its low flat islands affording no shelter, swept by drift and cold winds — it would never do.

Behind the Cape, which is really Bedford Pim Island, and separating it from the mainland, there is a strait named after Rice, of the Greely Expedition. Here is Fram Harbor, a snug little hole in the hills, deriving its name from the fact that Nansen's famous ship, the Fram, wintered here under the command of Sverdrup in 1898–99. This would make an excellent place if we could reach it, but even better than this was Alexandra Fiord, some six miles west up Buchanan Strait. There was only one possible objection — we might not break out in the spring. When one goes North, it is a fairly good idea to plan to get back.

We headed across the Sound on the morning of the 8th on a reconnaissance of the ice conditions.

As illustrative of how uncertain one's plans are in the North, from the crow's-nest when off Littleton Island, there was not a particle of ice in sight. Open water extended apparently to the Pole itself. When within ten miles of Cape Sabine, ice seemed fairly to pop out of the sea, and lay in one solid jam against Ellesmere Land from Cape Isabella northwards. This disappearance and reappearance of drift ice is so astonishing that Newfoundland fishermen declare it rises from the bottom and sinks beneath the surface!

After listening to a lengthy argument among the fishermen on the Labrador coast, some years ago, and endeavoring to explain that a cubic foot of ordinary sea water weighs sixty-four pounds (Bar. 30, Ther. 62°) and a cubic foot of ice fifty-seven and a half pounds, and therefore ice being lighter than water could not sink, one grizzled old mariner asserted that if I would accompany him in his boat but a short distance he would convince me that ice sinks! I went out with him. Upon reaching a small bight in the land, he looked down into the water and, with extended finger, exclaimed, 'There he is!' Sure enough, there 'he' was, a small floe berg on the bottom! The old mariner had the better of the argument.

My only explanation of this apparent phenomenon, and the only possible one, is that within the mass there was an embedded rock or boulder of sufficient weight to overcome the flotation power of the ice, which floats above water at the ratio of one to eight to one to eleven, depending upon the density of the mass.

As density depends somewhat upon temperature there is an interesting speculation as to what might happen to floe ice of low temperature encountering a comparatively warm stream of fresh water, such as in summer issues from the deep bays of Labrador. Under certain conditions the ice must sink; but such are rarely, if ever, found.

The real cause of the sudden appearance of ice to one on the deck of a ship is due to the convexity of the earth's surface. One's vision is extended according to one's height above the surface of the sea. From the deck of the Bowdoin it was possible for us to see floe ice at a distance of three and a half miles only. From the crow's-nest, sixty-five feet above the deck, our vision was extended to nine and two tenths miles. Ten miles of clear water over the bow resembles the Atlantic Ocean; but at ten and a quarter there may be a great field not yet in view.

Running along the edge of the pack, we examined it carefully for leads and a possible entrance. It presented an unbroken front. I decided to return to Etah and await a change.

Upon the northern side of Cape Sabine is the site of the Greely Starvation Camp of 1883–84. The twenty-five enlisted men of the Lady Franklin Bay Expedition, under the command of Lieutenant Adolphus W. Greely, landed at Wade Point, sixteen miles south of Cape Sabine, following their memorable retreat in boats from Fort Conger, two hundred and twenty miles north. They fully expected to meet the relief ship sent by the United States Government.

Learning of the crushing of this ship by ice through a note left in a cairn at Cape Sabine and finding a cache of supplies which had been landed, the party decided to abandon their partially constructed quarters at Wade Point and settle beside the cache, where a second ship would naturally seek them. Here they began their long and hopeless fight against cold, darkness, starvation. When the sun first touched the roof of their wretched rock hovel on March 11th, after its long absence of five months, it found one only of this brave little band missing. Six died in April, four in May, and seven in June. When Schley reached their camp on June 21st, but seven remained alive.

From that day not a tablet or memorial of any kind had ever been erected to these soldiers of the United States Army, who died as truly for their country as if on the field of battle. They obeyed their orders to abandon their headquarters and retreat south, which they did to their death. In the hold of the Bowdoin was a beautiful bronze tablet to be erected at Cape Sabine by the National Geographic Society, which is to be commended for this patriotic service.

In case severe ice conditions militated against reaching my objective point in the Bowdoin, I was confident of being able to do so with dog team across the ice of Smith Sound in the early spring. Returning to Etah, we moored the Bowdoin to the abrupt rock face of Reindeer or Provision Point. Scarcely were we tied up when a steamer was descried on the southern horizon headed northward. Our reasoning convinced us that it could be no other than the Arctic, the Canadian exploring ship under the command of Captain Joseph Bernier, which we knew to be bound for Cape Sabine for the purpose of establishing a police station to protect the musk-oxen of Ellesmere Island from the Greenland Eskimos. In view of the fact that the occupants of this one station would eat more musk-oxen in a year than would be shot by the whole Smith Sound tribe, we must conclude that the policy pursued by the Canadians is a penny-wise and a pound-foolish one. The Arctic, formerly the German Gauss, anchored a hundred yards distant from the Bowdoin. The contrast between the two ships was striking. The Arctic, undoubtedly the strongest polar ship ever built, massive, cumbersome, slow, apparently indestructible; the Bowdoin, small, lithe, fast, and apparently as fragile as a flower.

We were glad to see them and lost no time in paying our respects to my old friend, Joe Bernier, whom I have known for years. We were introduced to the various officers and to Dr. J. D. Craig, in charge of the expedition, and to his wife who accompanied him. To our surprise we learned that they had missed us by one day at Gready Harbor, Labrador, on July 18th. Their purpose in visiting Etah was to secure the services of two Eskimo families to act as assistants at the Cape Sabine Station. At the request of Dr. Craig, I accompanied him and Inspector Wilcox as interpreter to interview Panikpak and his young companion, Kla-shook.

Both were very anxious to enter the employment of the Canadian Government, were engaged at once, and ordered to pack up all their personal belongings as quickly as possible.

In the meantime we had been informed of the death of President Warren G. Harding through the wireless of the Arctic. The American flag was instantly placed at half-mast on the Bowdoin and remained so for three days, the most northern of all American flags in the world similarly raised in honor of the late President.

In the evening we were entertained on the Arctic by motion pictures, their equipment being similar to our own. We fairly fell into bed at 2 A.M., since we had had but very little sleep for several nights. When we awoke in the morning the Arctic had gone in spite of our assertion that she could not possibly reach the Cape with the ice in the present condition. I was confident that the lumbering Arctic could not do what the active Bowdoin had failed to do.

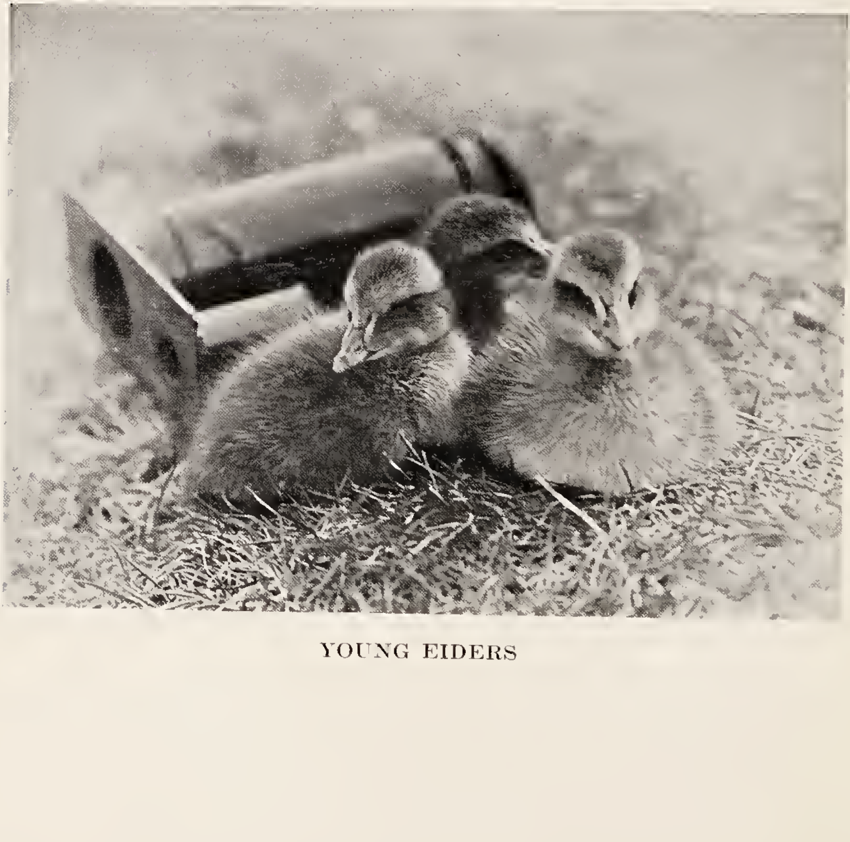
A change of wind now compelled us to leave our rock dock and seek a new anchorage under Sunrise Point, so named by the American expedition of 1860–61, which found it a favorable spot to observe the first rising of the sun after their memorable winter. Here the well-appointed British ships Alert and Discovery anchored on July 25, 1875, on their way to the Far North in a vain attempt to reach the Pole. We took advantage of our enforced delay to fill all our water tanks from a clear stream issuing from beneath a glacierette in what was familiarly known to us years ago as 'Jot's Valley.'

On Friday, August 10th, with Jaynes, my engineer, I made a reconnaissance of Port Foulke and Pandora Harbor with a view of the possibility of being compelled to winter on that side of the Sound in case of failure to reach Sabine. Robinson returned from the heights in the evening with the report that the Arctic was fast in the ice about ten

EIDER'S NEST WITH EGGS COVERED WITH DOWN

EIDER'S NEST WITH YOUNG

NESTS OF THE EIDER



YOUNG EIDERS

miles northwest of Cape Sabine, with no prospect of advance westward.

On Saturday, the 11th, following the completion by Goddard of his magnetic work at Etah, we proceeded to Pandora Harbor under power, the barometer giving indication of a southerly breeze and a possible besetment at Cobb Harbor. I have named this shelter under Sunrise Point after my good friend, Arthur C. Cobb, of Boston.

Pandora Harbor lies between two striking headlands, Cape Kendrick and the Crystal Palace Cliffs. A slight turn in the axis of the harbor furnishes a partial shelter in a westerly or southwesterly gale, but it is not what one would call a good harbor. It has this advantage, that, whereas Etah Harbor is from fifteen to twenty fathoms deep at all points, Pandora shoals gradually from fourteen to five, thus furnishing an excellent holding ground with good mud bottom. Numerous Arctic hares could be seen feeding on the southern slopes of Cape Kendrick, and the surface of the water was dotted with young eider ducks. The boys were soon out with shotgun and rifle.

Pandora Harbor is the old McCormick Bight of the Hayes Expedition. It receives its name from Sir Allen Young's ship Pandora, which visited this region in 1876 with the hope of communicating with the English North Pole Expedition of 1875–76. It also figured largely in the Greely Relief Expeditions. Here the Neptune, the First Greely Relief ship, anchored twice and rode out a succession of southwesterly gales, parting her lines and losing an anchor. Pandora Harbor was agreed upon by Lieutenant Garlington and Commander Wilder as the rendezvous for the Proteus and Yantic of the Second Greely Relief. Here cairns were to be built and records left, and to this harbor the wrecked crew of the Proteus retreated in their open boats following the crushing and sinking of the Proteus ten miles north of Cape Sabine on July 23, 1881. Encouraged by the belief that if some thirty men camped here forty years ago there must be remains of the camp still evident, the boys searched the shore and were rewarded by finding the camp, littered with débris. They brought on board fish hooks, table knives, forks, pieces of a fish net, card matches, and two broken cups, bearing an insignium of a life buoy with crown and foul anchor, and the words 'Marine Service.'

The persistency of such relics in the Arctic after a period of fifty and even sixty years is astounding. The reader may remember our finding written records and even the cap of the famous Kane of sixty-three years before, during our 1913–17 expedition. And not only records and various articles, but tracks of a push cart cut into the soil thirty-four years previous! Heavy rains never occur in the Far North to disturb the surface soil.

On Monday, the 12th, we left Pandora Harbor to renew our attempt to cross the Sound. North and inside of Littleton Island the ice lay heavy against the land stretching northward beyond Cairn Point. The middle of the Sound seemed clear so far as an examination from the crow's-nest could determine. Halfway across we encountered a herd of ten walrus sound asleep on a flat pan, affording us an opportunity of laying in a supply of dog meat. With the Bowdoin at quarter speed we crept upon the herd with six men crouching in the bows with cocked rifles. Following the fusillade two walrus remained dead upon the pan; others had taken to the water badly wounded. One was harpooned from the rail and two others from our dory, making a total of five. By the time these were cut up and hoisted to our decks, it was blowing fresh from the south'ard and ice was packing rapidly about us, threatening to block us in completely.

The danger was so imminent that time could not be spared to hoist in our boats, one of which was seriously damaged when we reversed our engine to extricate the Bowdoin from an impending squeeze. Our two boats were abandoned with a man in each to work them through the closing leads while the Bowdoin wormed her way to the edge of the pack. The men, Goddard and Mix, soon rejoined us in clear water and were taken aboard. The sky looked decidedly threatening. Ice was driving up rapidly from the southern horizon. A heavy fog bank could be seen below Cape Alexander. Herschel Bay and Baird Inlet offered no means of safety, since they were apparently closed. Under full sail and power we scurried for Life Boat Cove in a race against the fog bank. Within an hour the Greenland shore was a great white wall of fog. Breaks now and then disclosed familiar points, Cape Ohlsen and the southern end of Littleton Island.

We passed northward between the Cape and the Island, our objective being Life Boat Cove, although I was uncertain as to the depth of water, and despite the fact that I had never known of any ship anchoring there for shelter. As we rounded into the Cove, heavy squalls from the high hills were whipping the surface of the water into spray. The color of the bottom suddenly changed from a deep black to a yellow sand studded with gigantic boulders. My yell from the barrel, 'Hard a-starboard!' was too late. We were aground! And on a falling tide!

With engine at full speed and wheel hard over, aided by trimmed sails, we slowly swung the Bowdoin on her heel, and off she went like a scared cat for the passage between Littleton and Eider Duck Island, where I knew there was at least plenty of water, but at the same time the danger of running ice.

We anchored in five fathoms, a bit doubtful as to what might happen in such a narrow run. There was no sleep for me that night. The heel of a ship is a veritable 'heel of Achilles,' the vulnerable spot. A sharp crack on the heel will often unhinge or remove a rudder from its pintles or crush the lower end of a rudder post to pulp, utterly destroying its usefulness. A ship is virtually useless without a rudder, although I am aware of the fact that a famous American navigator sailed his ship *backward* without a rudder for two hundred miles! A man deserves real fame for such a feat as that. Not alone for this, but for many other notable exploits, Captain Samuel Samuels has a niche in the heart of every sailor man.

With a change of tide the Bowdoin swung across the channel, her stern dangerously near the sloping face of the hard syenitic shelf of rock. The storm continued to increase in strength, a southerly gale with a fine driving rain, and continued throughout the next day. Our Eskimos improved the time by an examination of their father's egg cache. Eider Duck Island is noted as the breeding ground of eider ducks. In the past we have gathered four thousand fresh eggs in a few hours! Our Eskimos arrived on board with a bucketful, having found thousands stored for the winter beneath the rocks of the island. At any rate, come what might, we were assured of an abundance of deliciously nutritious eggs throughout the winter.

The wind moderated on Wednesday, but a cold drizzle still continued with no promise of better weather. To relieve the monotony of this enforced delay we put on oil clothes and rubber boots and visited the historic cairns on Littleton Island. No island is better known in Smith Sound history than Littleton. Its history begins with Captain E. A. Inglefield, who gave it its name in 1852. Dr. Elisha Kent Kane was the first to step upon its shores, which he did on August 6, 1853. A citation from his beautifully written narrative is of interest: 'Our stores deposited, it was our next office to erect a beacon and intrust to it our tidings. We chose for this purpose the Western Cape of Littleton Island, as more conspicuous than Cape Hatherton; built our cairn; wedged a staff into the crevices of the rocks; and, spreading the American flag, hailed its folds with three cheers as they expanded in the cold midnight breeze.'

Within a few minutes I stood on the western cape of the island beside the cairn erected by America's first great Arctic explorer seventy-one years before. The 'tidings' have long since been removed, but his record of being the first to enter Kane Basin, his abandonment of the Advance, and his plucky retreat to Upernivik will live as an inspiration to the youth of America.

Littleton Island next figures in the history of the British North Pole Expedition of 1875–76. Here Captain Sir G. S. Nares, R.N., K.C.B., F.R.S., landed and erected a cairn on the southwest end 'containing a short account of the movements and prospects of the Expedition up to that time.' This also was readily found but a short distance from the Kane cairn. One year later Sir Allen Young, Captain of the Pandora, afterwards the famous Jeannette of the DeLong Expedition, landed here four boxes and three casks of mail matter for the expedition.

In 1873, the U.S.S. Polaris limped in under the island, a wreck, squeezed to death by the pack, while nineteen men, women, and children drifted away on an ice-pan. In 1881, Lieutenant Adolphus W. Greely arrived in the Proteus. He picked up the mail left by Sir Allen Young and landed, against a possible retreat southward, six and a half tons of coal. The remains of this coal cache were readily found a few feet above high-water mark on the eastern side of the island under Cape Ohlsen.

During the next three years Littleton Island was the best-known point in the Arctic, for around it centered the controversial point of the Greely tragedy. The First Greely Relief, known as the Beebe Expedition, after spending forty fruitless days trying to penetrate the pack, landed two hundred and fifty rations in a cove at the north end of the island and covered them with a tarpaulin, anchored with rocks, and so concealed as to be visible for only a few yards. The Second Greely Relief, known as the Garlington Expedition, planned to erect a dwelling and storehouse on the island in case the Proteus should fail to reach the headquarters of the Greely party at Lady Franklin Bay. Lieutenant Garlington's orders read that this should be done on his retreat. Among his papers there was an unsigned memorandum stating that the Proteus should land her stores at Littleton Island *on the way north.* Lieutenant Louis V. Caziarc, a clerk in the Signal Office, seems to have been the only one to consider the possibility of the loss of the ship north of Littleton Island. Garlington referred the discrepancy in his orders to the Chief Signal Officer and was told to follow the main instructions and to disregard the memorandum.

The Proteus steamed past, to be crushed ten miles northward of Cape Sabine. The relief party retreated to Littleton Island and, before proceeding southward in boats, left there a record announcing the disaster to the Proteus. One year later, the Bear and the Thetis, the Third Greely Relief, under the command of Commander Winfield S. Schley, U.S.N., anchored here on their way northwards and left a dépôt of seven hundred and sixty rations. A few days later they were at anchor here again with the living and dead of the Greely Expedition.

As I stood on the summit of that windswept, gray, barren, rock island, the events connected with its stirring history were rapidly recalled: the Isabella scudding before the gale of wind; Kane waving his flag at midnight; a lone whaleboat starting south for help; the scurvy-riddled retreating party of Kane; the death of Ohlsen; the battered United States; the march northward of Hayes; the crushed Polaris; the drift party; the retreat of Buddington; the arrival of the Tigress; the Discovery, the Alert, the Pandora, the Erik, the Proteus, Neptune, Yankton, Bear and Thetis, Windward, Fram, Roosevelt, a long line with colors flying and black smoke belching from their funnels, battering at the ramparts of the white fortress of the North to learn more of the secrets of what is apparently a dead world.

CHAPTER VII

WE SELECT A SITE FOR WINTER QUARTERS

On Thursday, August 16th, large pans of ice began sweeping through the passage, threatening to carry us out bodily. Only a constant watch and use of engine and wheel offset this danger. The instant the weather cleared and ice conditions were favorable, I decided to go north along the Greenland shore for a careful examination of all bights and inlets with a view to wintering on the eastern side of the Sound. From the heights of the island the Sound was white with ice, and as yet offered no possibility of a crossing.

In the afternoon the ice relaxed sufficiently to justify the attempt. We passed the Cape Hatherton of Inglefield and entered a harbor with beautiful white sand beach and sand bottom five miles beyond, which I remembered from my sledging days. I have named this Sewall Harbor after Charles Sewall, of Wiscasset, Maine.

Sewall Harbor possessed many of the requisites of a good winter anchorage and also the necessary requirements for the successful establishment of our magnetic station. A further examination disclosed shoal water at the head of the harbor where a ship must lie for protection against the pack in the spring. I reasoned that this could not be the Fog Inlet of Kane, with its 'forty fathoms of water to within a biscuit toss of its northern headland.' I walked on over the hills endeavoring to recall sites of our old camps in 1914–15–16–17. Upon arriving at the summit of an old raised beach, I found that a *real* harbor lay almost at my feet, dark and deep, a perfect shelter! Its approach and narrow entrance were choked with heavy drift ice. I noted that what lay on the surface of the inner harbor was practically without motion, indicating a lack of any tidal current, and consequently but little pressure during the winter.

On Friday, the 17th, we proceeded under power to this harbor, finding plenty of water going in and four fathoms within fifty feet of low-water mark. As the harbor was one in hundreds and all conditions in it were so ideal, I decided then and there not to leave a certainty for a bare possibility in Ellesmere Land, since all our plans for scientific work, the landing of the tablet at Cape Sabine, photographs of birds and animals of the Far North, and a series of motion pictures could be carried on here as well as elsewhere. And we should be in touch by dog team with the winter meat caches of our two Eskimo dog-drivers and also with the abandoned caches of meat and eggs at Etah and Littleton Island.

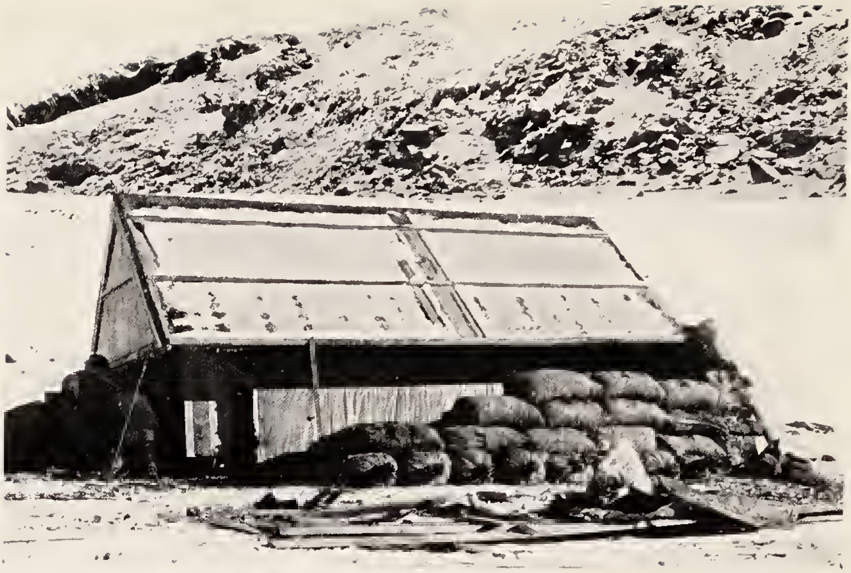
This harbor is undoubtedly the Fog Inlet of the Kane Expedition of 1853–55, the place afterwards referred to as Refuge Harbor. In noting bearings Kane often fails to state whether they are true or magnetic. His statement that the harbor opens to the *north* would certainly discourage even the wildest adventurer from entertaining any thoughts of a safe protection during the winter after an instant's study of the contour of Kane Basin. The central axis of the harbor extends in a northeast-southwest direction, bending west at the outer entrance, and it is therefore open more west than north. Its trend to the west renders it safe from ice pressure.

In the afternoon I walked over to Cairn Point to examine the cairn built by Kane on August 9, 1853, and described as follows:

> Anxious beyond measure to get the vessel released, I forced a boat through the drift to a point about a mile north of us, from which I could overlook the sound. There was nothing to be seen but a melancholy extent of impacted drift, stretching northward as far as the eye could reach. I erected a small beacon cairn on

Not a Comfortable-Looking Harbor

The Little Bowdoin tucked away in her Winter Home
REFUGE HARBOR



PROTECTING THE MAGNETIC OBSERVATORY AGAINST THE LOW TEMPERATURES TO COME the point; and as I had neither paper, pencil, nor pennant, I burned a K. with powder on the rock and scratching O.K. with a pointed bullet on my cap lining, twisted it as the representative of a flag.

A very careful scrutiny of the lichen-covered rock failed to disclose the slightest trace of the 'K' after seventy-one years of exposure to the elements. The reader of my 'Four Years in the White North'[1] will recall my finding of this very cap in 1916 under an iron pot some twenty-five miles north of this point, in good condition and with 'O.K.' still discernible. Following my return to the United States, I learned with interest from Judge Kane, of Philadelphia, that the family name was at one time O'Kane, thereby explaining the mysterious 'O.K.' found in the cap lining.

On my return to the ship I accidentally stumbled upon the site of one of my old igloos, with bed still intact and ground littered with pemmican tins and bits of biscuit boxes, recalling a night spent there at sixty degrees below zero and experiments upon bodily radiation of heat and non-conductivity of the walls of a snow house.

On Saturday, August 18th, we began unloading the Bowdoin, and before night had nearly everything on the beach, including the meat of our five walrus. The men were so tired that they were all in bed at ten o'clock.

Goddard began work at once upon the foundation of the magnetic observatory, excavating for the cement piers, the building of which permitted of no delay, since freezing temperature militates against successful cement work — a very good reason for our early decision upon the site for winter quarters. Had it not been for our prospective magnetic work, we could have cruised and explored in the Bowdoin for at least a month longer.

On the 19th we began our meteorological observations which were to continue uninterruptedly for a period of two hundred and eighty-six days. The equipment supplied to the expedition by the United States Weather Bureau consisted of a weekly barograph, a weekly thermograph, three maximum and three minimum thermometers, two psychrometers, a snow gauge, one compound wind vane, and electric ammeter.

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[1] *Four Years in the White North.* Harpers, 1918.

In the afternoon I ascended to the top of the highest hill in the vicinity to determine its height, study its character geologically, and note conditions of the ice field in Kane Basin. By aneroid, the hill proved to be fourteen hundred feet in altitude. With interest I noted that its very top consisted of a yellow sandstone abounding in ripple marks, resting upon a thick bed of basalt, and this unconformably upon a red syenite which encircled our harbor. Ripple marks are characteristic of wave actions in deep or shallow water, the type depending upon the spacing, symmetry, and coarseness of the building material. Assisted by supplementary facts observed later, I was forced to the conclusion that these ripple marks were not æolian, but formed under water, conclusive of emergence of the land to the height given, in relation to the mean sea level.

Elevated strand lines are a very common topographic feature throughout the North. I have noted them frequently all the way from the Straits of Belle Isle to the most northern known point of land in the world, Cape Morris Jesup in Greenland. They were observed also all along the northern shores of Grant Land from Cape Union to Ward Hunt Island; and at an elevation of more than a thousand feet! This emergence of the land and corresponding subsidence has been observed throughout practically the whole world. Geologists in general agree that these diastropic movements are caused by unequal contraction of the earth's crust. There is good evidence here at Refuge Harbor that this section of the North Greenland coast is sinking — that is, in relation to the mean sea level.

On Sunday, August 19th, we broadcast through our wireless the report of our arrival at the harbor and the general health of all members of the expedition.

A snowstorm on the 21st and a freezing over of the harbor might have portended, to a new arrival, the early approach of winter. Such occurrences frequently happen even throughout the summer, especially on still nights when there is not enough wind to disturb or ruffle the surface of the water. This phenomenon — for such it is, since the temperature of the air may be several degrees above the point of freezing — may be explained in this way: During the spring and summer months, May, June, July, and August, there is a constant flow of fresh water from brooks and streams issuing from beneath countless snow banks, as well as a seepage from the now thawing frozen soil. This fresh water from the land and from melting icebergs, being lighter in weight than the salt water of the sea, flows out on the surface of the harbors and bays. The temperature of the former is about 32° F.; the temperature of the latter about 29.2° F. The result is a thin layer of ice. Ordinarily the slightest kind of breeze will disturb the surface of the water sufficiently to prevent this from happening.

With our little steel motor boat Jaynes cut the harbor ice into triangular sections and by night all ice had disappeared with the ebb tide.

A steadily falling barometer on the 22d gave indication of an easterly gale and consequently a possible test of the qualities of our new home as a harbor. We transferred our two stern lines which ran to the beach to the bow chocks and swung head to the wind to thirty fathoms of a twenty-two-thousand-pound tested steel chain. If she went out of the harbor the land would go with her! It was blowing hard and snowing, the storm continuing without cessation throughout the 24th. The hills and our deck were white with snow, the former accentuated in height by their winter covering.

On Saturday the 25th we observed from the high hills that there was a clear stretch of water southward; therefore, I decided to run down to Peteravik, fifty miles south, after a load of walrus meat, cached there by Kah-kotchee′a, one of our Eskimo dog-drivers. Following the arrival of Jaynes and Bromfield with three seals (*Phoca hispida*) and five eider ducks, we hoisted all sail and with a fair wind were soon at anchor in Cobb Harbor under Sunrise Point. It seemed good to have clear decks again, and incidentally strangely quiet, since we had left behind our twenty dogs, the two Eskimo women, and little Kla-ing′wa.

As a commentary on the variety of weather in the North, I will say that during the night we had rain, snow, and fog! This unfinished world is a bit reluctant to settle down to anything approaching consistency. No, there is one exception — bitter cold strong north winds throughout the dark period.

We fairly drifted to Peteravik, being helped at times, because of a strong head tide, by our small motor boat, considering it more economical on oil than our 60 H.P. Fairbanks & Morse. Quite a heavy surf on the beach made landing and loading difficult, but we finally got away with dory-loads of walrus and white whale meat — dead a long, long time. I wondered if the once immaculately white Bowdoin would ever be clean again.

It may encourage game conservationists, who justly deplore so much killing of big game and fear total extinction, to learn that I have never encountered so many walrus as were seen on the run to Cape Alexander. Their heads and backs were appearing in all directions. The Eskimo will enjoy his raw frozen walrus liver for many, many years to come. If by disease or wanton killing this animal should be exterminated, the Smith Sound native will be compelled to pack up his belongings and leave the country of his fathers and forefathers for more southern settlements; for walrus constitutes the bulk of his food and furnishes him with an invaluable supply of meat for his dogs, a necessary article to a successful hunter.

On the way to Etah, I learned from E-took′a-shoo and Kah-ko-tchee′a that walrus were in the habit now of resorting to the fresh waters of Alida Lake at the head of Foulke Fiord. To gain this objective it was necessary to travel overland a distance of some four hundred yards. I had read in books of 'sea-horse' being killed on land in incredible numbers; of their being found in valleys far from the sea, even on Anticosti Island in the Gulf of St. Lawrence years ago; and of their having visited a pond on Littleton's Island. And I had myself seen them sound asleep upon the land, but had never seen them in fresh water; therefore with interest we directed the Bowdoin toward the head of the fiord. Not a single walrus was seen in the water, on the land, or in the lake.

We now headed back for Etah which is in Foulke Fiord. This is not to be confused with Port Foulke, which lies outside of the fiord and around a point of land. The former, in which the settlement of Etah is located, was Peary's headquarters in 1899–1900; the latter, the winter refuge of the United States under the command of Dr. Isaac Israel Hayes.

Etah is in many respects the finest wintering station along this stretch of coast, but it has this objectionable and anomalous feature — the waters of its harbor are too deep, one hundred and sixty feet throughout the whole fiord, which is roughly three miles long and one mile wide. It is really a giant rock trough cut down through the successive layers of sandstone, conglomerate basalt, syenite, and gneiss, by one of the drainage glaciers of the great Greenland ice cap, which at one time was much larger in area. This cap, due to climatic changes, has dwindled to its present size, five hundred thousand square miles in area.

There is indisputable evidence that it is increasing in size and that all glaciers in the Far North are again advancing toward the sea. My own observations have extended through a period of sixteen years, from Cape York, 76° North Latitude, to the Humboldt Glacier, 79° 20′, on the Greenland side, and from Clarence Head, 76° 45′ to 80°, on the Ellesmere Land Coast. Lands and coast lines placed upon the map seventy-two years ago are now buried in ice. All old and middle-aged Eskimos of Smith Sound have noted the advance and have commented upon it. This does not necessarily portend another great ice age. The advance may be but temporary, and the word 'temporary' geologically admits of a wide interpretation when we consider that the length of each one of the four glacial periods was about twenty-five thousand years. The interglacial periods, according to eminent geologists, varied from seventy-five thousand to two hundred thousand years! Therefore, a seventy-year advance in the North is but a microscopic drop of moisture visible for the minute fraction of a second. Nevertheless, the advance is of great human interest and the 'why' and the 'wherefore' even more so, considering that this is our home, the history of which is filled with most miraculous changes since its birth, æons of years ago.

We moored to the rocky bluff of Provision Point and loaded on our decks all the cases of lubricating oil cached there two weeks earlier against our return trip. We needed them now for the construction of a box house for our Eskimos. In the meantime various members of the party bagged thirty eider ducks to add to our winter's supply of meat.

A change of wind again compelled us to seek our old anchorage on an excellent sand bottom in eight fathoms of water at Cobb Harbor. A strange-looking object on the beach proved to be a dead white whale, a lucky find, and one which furnished our Eskimos with a large amount of oil for their stone lamps. The next morning, Jaynes, Goddard, and Bromfield brought in thirty-one more ducks, a very welcome contribution to our prospective Sunday duck dinners throughout the winter.

In the afternoon we started for Refuge Harbor with a fair tide, but strong head wind, proceeding under power between Littleton Island and Cape Ohlsen, up past Polaris Beach and close into Cape Hatherton to avoid pans of ice driving down the Sound. We found our harbor blocked with ice, but, by bucking and a careful maneuvering through the cracks, we wormed the Bowdoin to within a few yards of the northern shore. The women and the dogs stood on the beach intently watching our progress, having been a little concerned over our prolonged absence.

Wednesday was a busy day with the unloading of oil and meat, and the building of the large box house for the Eskimos. McCue found time to bring in our first two ptarmigan — Rheinhardt's so-called, one of the three species found in this section. Kah-ko-tchee'a shot one Arctic hare. A square-flipper or bearded seal (*Phoca barbata*) played about the ship for some time but escaped unhurt.

On Friday, August 31st, Jaynes, Bromfield, and our two Eskimos left for Etah in the motor boat to hunt walrus and to cut, or rather to pull, hay! 'Haymaking at the Pole' has not engaged the serious attention of a writer on Arctic phenomena, yet much might be said about it in all seriousness. I recall an amusing incident that happened in South Greenland. The Eskimos of one of the central stations were sent to the head of one of the fiords after grass. They failed to return for several weeks. When questioned as to the cause of their delay, they replied they had been waiting for the grass to grow! The southern exposure of Etah Fiord is a dense mass of strong matted grass, an excellent non-conductor for the rock beds in the igloos. How wonderfully Nature has provided for these dwellers of the Arctic!

By Tuesday, September 4th, I was very much concerned over the non-return of the Etah party, fearing lest walrus had attacked their boat, and remembering my own experience in 1908 and 1909. I hastily prepared my equipment for an early start in the dory for Etah, whereupon Goddard and Mix both gladly volunteered to relieve me of the undertaking. They left under sail at 3 P.M. with a strong fair wind and falling barometer. Four miles to the southward they met the motor boat bucking into a head sea and well iced-up, but making excellent progress. With the dory in tow they were all soon alongside, their clothing a mass of ice and their faces blue with the cold. They had plenty of grass, but no walrus! Incidentally I may state that it is possible to obtain grass at Etah any time in the year. The south-facing slope on the north side of the fiord is buried with a broad-leaved tough grass known as Arctic timothy (*Alopecurus alpinus*).

By September 6th, the harbor was so firmly frozen over that my men, all new to the Far North, declared that we were in solid for the winter. The next morning the ice had disappeared completely. And so it continued alternately freezing and breaking until the 22d, when the thermometer dropped to ten above zero, resulting in a final layer of skim ice over the harbor.

Before freezing in for the winter I decided to run out into the Sound for a last walrus hunt to secure if possible additional meat for our twenty-two dogs. We left at 3 P.M. on the 11th and were rewarded with a six-hundred-pound square-flipper or bearded seal (*Phoca barbata*). A few minutes later the boys reported a fine big herd sound asleep on the sloping shelf of a small floe berg. Cautiously and at 'dead slow,' we crept around to the back of the berg and out of sight. All the men were stationed on the bow of the Bowdoin with cocked rifles — the very best. Attacked by such a battery all certainly would not escape. I visualized a mass of meat for our dogs during the winter. Although at the wheel some eighty feet distant, I noticed the instant change of expression on the faces of my men as the Bowdoin turned the corner of the berg and knew that we had been fooled. 'Rocks!' yelled one of the battery, and such our walrus proved to be. It is not a common thing in the North to see boulders on ice, but they do occur occasionally in such positions and deceive both Eskimos and whites.

Before running back for the winter we sailed northward to 78° 38′, Cape Inglefield, which was the Bowdoin's 'Farthest North,' a world's record undoubtedly for a vessel of fifteen tons register. Five miles beyond was Cape Ingersoll, the great rocky bluff known to Kane as Sylvia Headland, which guards the entrance into Rensselaer Harbor, the two-year home of the American Expedition of 1853–55. Here the Advance was abandoned, fast in the ice, and later burned by the Eskimos.

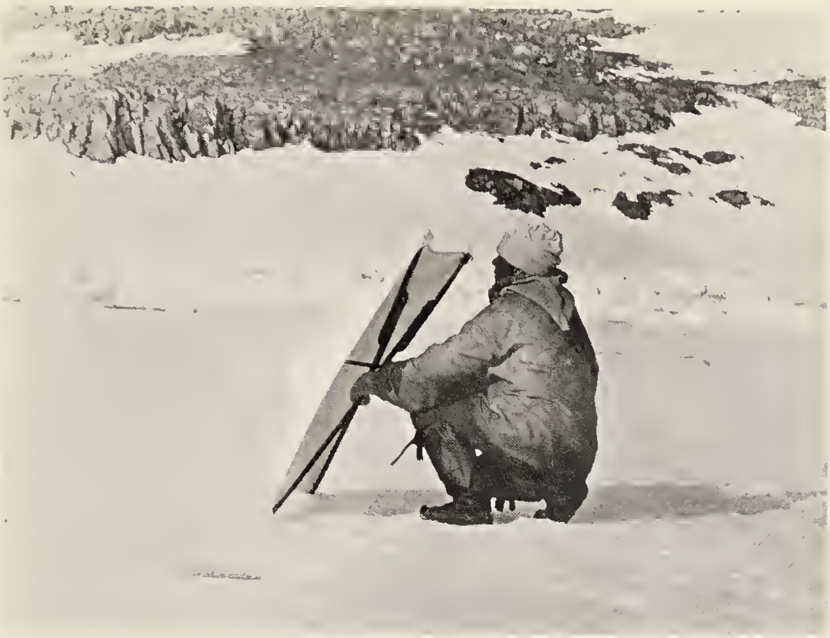
Having proceeded as far as I deemed it prudent to venture, I swung the Bowdoin round for what was now home, Refuge Harbor. In the meantime great pans of newly formed ice had driven down from the north and blocked our way completely. With considerable anxiety I watched the steel-covered bow of the Bowdoin cutting slowly through this tenacious, leather-like covering which was not even old enough to crack. At times the good little craft was nearly at a standstill, engine at full speed and vibrating from keel to ice barrel. To be caught here for the winter was not a pleasant outlook. When we broke through the last connecting link, I felt like a boy out of school on Friday afternoon. Within two hours we were swinging to our anchor in our winter harbor.

The men continued to bring in seals, eider ducks, sea-pigeons, ptarmigan, and Arctic hares for our winter food supply. They took advantage of every good day, for game would soon be leaving us, and what remained could not be shot in the darkness, as the sights of the rifles could not be seen.

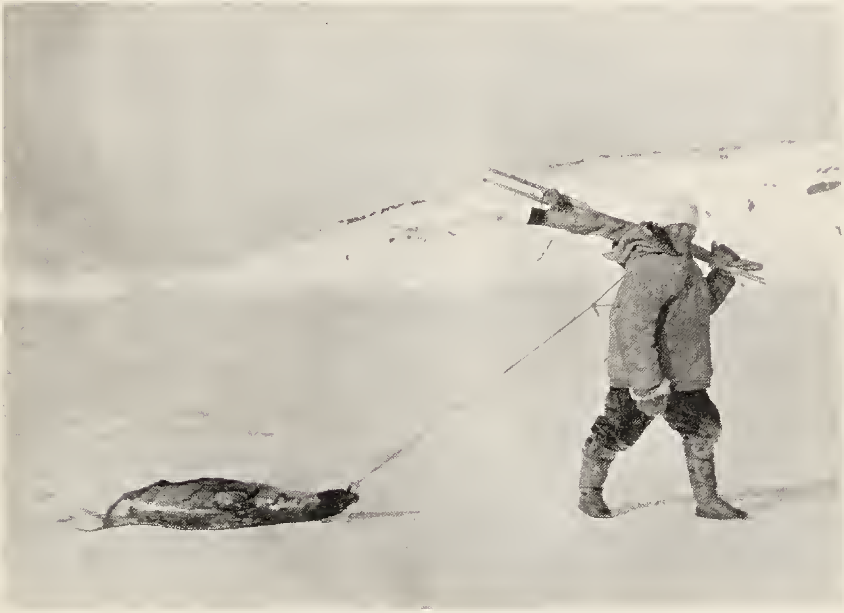
I was influenced in my choice of the location for winter quarters by the fact that our door opened southward over a great stretch of water toward home, favorable conditions for the sending and receiving of radiograms. Now that we were established in our winter quarters, was it possible to communicate with our friends, two and even three thousand miles away!

On September 9th, Barnesley, 9 BP, Prince Rupert, British Columbia, over three thousand miles distant, heard our call and answered, received our telegrams for our relatives, our message for the North American Newspaper Alliance, and notified us of the terrible disaster in Japan and the death of sixty thousand people in Tokio, Yokohama, and other places. On the 11th we were again in communication, learning of the loss of seven United States destroyers on the California coast. On the 13th we listened to a musical concert from California, a unique experience, since we were the first in the Far North ever to hear the human voice coming from home. On Sunday night, the 16th, gathered in the little forecastle of the Bowdoin in winter quarters on the northwest coast of Greenland, three days and a half journey to the Pole if waters were clear, we listened to a sermon from WLAG, Minneapolis, Minnesota.

As we worked our boat through the narrow leads back and forth between the Bowdoin and the shore, there was an excellent opportunity for observing the surprising amount of life in those Northern seas, of which there is an 'Abundant progeny whose fruitful seede farre passeth those on land'; wholly unexpected because of the fact that they are constantly at a temperature of about three degrees below the freezing point (32° F.,) of fresh water. Yet cold waters are more favorable for an abundance of life than warm because of the excess amount of oxygen in



ABRAM BROMFIELD STALKING A SEAL



BRINGING HOME THE MEAT

GLACIAL BOULDERS

THE LAST OF THE LAND DISAPPEARING BENEATH THE GREAT GREENLAND ICE CAP solution. In this fact we find the reason for the great cod, halibut, and whale fisheries of the North. The waters about our ship swarmed with a winged snail, a pteropod, so black that the Eskimo name 'Too-da-wuk' (raven) seems quite appropriate. In science this little mollusk is known as the *Clione borealis;* among the fishermen 'whale-feed'; 'blackberries' and various other terms are used in its description.

At night with every stroke of the oar or a disturbance of a pan of ice the waters glowed with phosphorescence, that strange cold light emitted by noctoluca, the character of which is as yet unknown to our scientists. I have seen medusæ drifting by the ship at night resembling a dull electric bulb beneath the surface of the sea.

Ice forming in the harbors and bays trapped great numbers of eider ducks as yet unable to fly, but practically full grown. The men brought in thirty-four on the 24th and 25th. One of our Eskimos went to one of the many lakes in the vicinity and succeeded in catching five beautiful trout. At this time Smith Sound was frozen over completely, the ice extending south within two miles of Littleton Island. I knew from former experience that such a condition was but temporary, as lower Smith Sound, the waters between Cape Alexander and Cape Sabine, remain open winter and summer. This is the nucleus of the so-called 'North Water' of the early whalemen.

Our magnetic observatory was now in full swing, its apparatus being connected electrically with the Delco plant. A word on terrestrial magnetism may not be without interest. We are all acquainted with the common horseshoe magnet and its properties. As this plaything attracts needles, nails, or iron filings, so the earth attracts the steel needle of the compass or any magnetized needle freely suspended, and gives to it a determinate direction. Just why or how it does this, no one knows. Just what this inherent force is, scientists have not learned after patient years of study and research. The earth acts like a giant magnet and is one, so far as we know, with the two poles of every magnet, the North Magnetic Pole and the South Magnetic Pole, not to be confused with the poles of rotation, Peary's North Pole and Amundsen's South Pole, the 'ends of the earth.'

The North Pole, known as the North Geographical Pole, is at 90° North Latitude or ninety degrees from the Equator; the North Magnetic Pole is in about 70° North Latitude and 97° 30′ West Longitude; in other words, in Canada, in a territory known as Boothia Felix Peninsula, northwest of Hudson Bay. The South Magnetic Pole is an almost corresponding distance from the South Geographical Pole.

Although knowing nothing of the magnetic properties of the earth, the Chinese as early as the second century used the magnetic needle as a guide in overland journeys. Dr. Nansen states that possibly the magnetic needle was introduced into Europe by the Arabs, who had commercial intercourse with the Chinese. We do not know when it was first used at sea as a guide for the mariner, probably a 'needle rubbed with the ugly brown lodestone; stuck in a straw and laid upon water,' but possibly in the twelfth century. But this is the important point — it was believed that the needle maintained a constant direction and that direction *north.*

Columbus, on September 13, 1492, was the first mariner to note a change in its direction as his ship sailed westward toward America. Variation was not clearly recognized until Button's voyage in 1612. Purchas, writing of Button, states: 'This seemed strange that in this voyage, as he searched many leagues East and West he found the variation of the compass to rise and fall in admirable proportion, as if the true magnetical Pole might be discovered.' In other words, the needle varies in its direction according to its location, its northern end, so called, endeavoring to point toward that spot in the Boothia Felix Peninsula, known as the North Magnetic Pole.

Variation of the compass is the angle between true north and the direction which the needle maintains. Accurate navigation is possible only when this angle is known. That is the reason for the very valuable work of the Carnegie Institution of Washington in studying throughout the world this mysterious force, which varies in its horizontal and vertical intensity almost from minute to minute. The needle considered so true is not pointing today where it pointed last year, but is slowly swinging toward the east in certain places and toward the west in other places. All coast surveys, all charts would be utterly useless without this information.

It may be of interest to know that at our winter quarters in Refuge Harbor in North Greenland our compass needle pointed a little south of west. At one of my camps in 1916, my compass needle pointed *south.* If I wished to go north I steered south by compass; if I would go east, then my course was west. This force which gives direction to the needle is known as horizontal intensity.

Equally interesting is the fact that as one goes northward or southward from the Magnetic Equator, which is practically midway between the two Magnetic Poles, a freely suspended magnetic needle dips or tips downward and continues to do so increasingly as one approaches the Magnetic Pole. At the spot itself the needle is *vertical,* not horizontal. This force which pulls the end of the needle downwards is known as the vertical intensity. At Refuge Harbor this dip of the needle was 85° 47′.

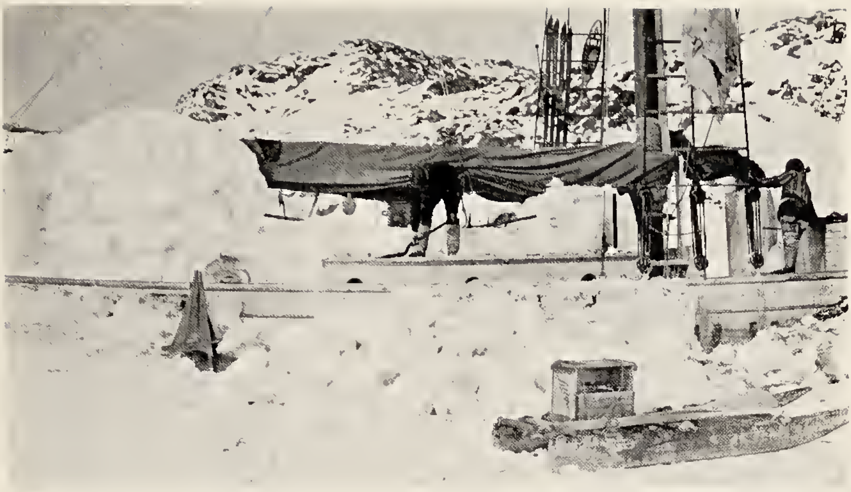
Our magnetic observatory, in charge of Richard Goddard, was established under the direction of the Carnegie Institution of Washington to determine the local horizontal and vertical intensity of the magnetic needle, and also for the study of atmospheric electricity to supplement our work in Fox Channel and on the west coast of Baffin Land in 1921–22.

The hills were now white with snow, and harbor ice was strong enough to bear the men anywhere with safety. The Bowdoin was in her ice cradle for the winter. In a good harbor there is absolutely no danger of being crushed by ice, provided the ship is not in the tidal crack, which is a gigantic mouth, opening, shutting, and grinding continuously. If the ice field is subjected to a strong running tide or current and not restricted in movement by encircling shores, there is danger of movement which results in pressure ridges. Such nearly destroyed the Fram on her polar drift in 1893–96.

When Captain Thomas James wintered at Charlton Island in 1831–32, he resorted to the extraordinary expedient of sinking his ship to save her. That he was in some doubt as to the success of such a novel procedure was attested by the fact that during the winter a pinnace was built for the homeward trip. He succeeded, however, in raising his ship the following spring.

All summer birds had migrated south. Only ravens, snowy owls, and a few ptarmigan remained, these three birds to be with us throughout the dark period. The major number of the last two, however, migrate to southern Greenland or northern Canada. The ravens almost hibernate, although the term, to my knowledge, has never been used with reference to a bird. I have found one at the end of the long, dark night sitting in a sheltered nook on the cliffs in such a torpid condition that I sat down beside it and studied its condition with interest. When the bird opened its eyes and discovered me actually within reaching distance, its expression and movements of alarm were truly comical. It decided that it had overslept and would be late to work!

On October 5th our first bear and caribou hunting party left for Rensselaer Harbor. The sea ice around and beyond Cairn Point northward was not deemed safe; therefore our party, consisting of McCue, Jaynes, E-took'a-shoo and



PREPARING FOR WINTER

READY FOR THE LONG, COLD WINTER NIGHTS

ALL SNUG AND WARM ON BOARD THE BOWDOIN

RECEIVING MAIL FROM THE UNITED STATES
It has traveled at least 9000 miles by steamer, kayak, and dog-team

Kah-ko-tchee'a, was compelled to undergo the severe labor of tumping their equipment through deep snow to the summit of the high hills north of our harbor.

The dogs, sadly out of condition following a four months' respite from harness, wallowed up to their necks. But how glad they were to be at their work again! But who wouldn't be after being tied up by the neck for that length of time! A dog's life is at its worst during the summer months, when, uncared-for and rarely fed, they lead a miserable existence, little appreciated for what they have done, and less for what they will do the coming winter.

Now that the Bowdoin was fast in the ice our next duty was to reclaim all of our bow and stern lines, the former leading to the beach beneath the ice, and the latter to a kedge anchor a hundred yards astern. With axe and saw we soon had our anchor on deck and lines coiled on the beach for drying. When spring southerly winds began in June and early July, causing the harbor ice to move, our heavy anchor with its forty fathoms of heavy chain would prevent our driving onto the beach.

On October 7th we learned through our wireless that the Canadian Government S.S. Arctic had returned to Quebec, reporting failure to reach Cape Sabine because of heavy ice fields.

That night we listened to a church service broadcast from WOAW, Omaha, Nebraska, from the Bethany Presbyterian Church of Council Bluffs, Iowa, the Reverend P. S. Netherby, pastor. Every note of the music and every syllable of the words spoken was so wonderfully clear that the church might just as well have been within our harbor.

On the 11th we were surprised at the arrival of two Eskimos, Kanga and his wife, Sulming-wa, the latter with a litter of black pups on her back. They were returning south from the caribou grounds, thirty miles northeast, to their home at Ig-loo-da-houny in Robertson Bay. Needing bed covering for the approaching winter they had crossed the ice cap of Prudhoe Land to the rolling country back of Bancroft Bay, a distance of sixty miles, where they had killed two caribou. Returning, they encountered our party at Force Bay, to their great surprise, believing that we had crossed Smith Sound and had established winter quarters in Ellesmere Land.

I was not surprised to find Sulming-wa with Kanga, although I knew she was married to Jacobshuna of the wry neck, since temporary exchanges are of very common occurrence. It was whispered among the Eskimos later — such whispers run round the world — that Kanga and Jacobshuna went hunting together. Jacobshuna did not return. The couple seem happy together, but it is rumored that Kanga sees things at night, strange animals in strange shapes, perhaps the restless, unburied soul of his hunting companion.

CHAPTER VIII

THE TWILIGHT OF THE WINTER NIGHT

Each day was a little shorter and each night longer. Finally the day arrived, October 25th, when the sun bade us good-bye for a period of one hundred and eighteen days, not to return until February 18, 1924. The high hills which bordered our harbor had cut off the rays a week or more earlier; therefore our sunless period would be in duration about one hundred and thirty-two days. Contrary to the current opinion about the Arctic night, we do not experience continuous darkness from the date of the sun's departure in the fall to the date of its arrival in the spring. Our nights were dark throughout this period as they are in the United States, but our days at Refuge Harbor were twilight-lighted throughout the whole period, the length of the twilight depending upon our latitude.

Watch the sun go down at night, the twilight which follows, and the approaching darkness. *It will not be dark until the sun is eighteen degrees below the horizon.* Our latitude was 78° 31′. The sun's declination, or farthest south, on December 21st was 23° 27′. Therefore at noon the sun was never more than twelve degrees below the horizon. True, the twilight at noon was of short duration, but its recognition certain. In order to have total darkness at noon, an expedition must have its winter quarters within six degrees of the Pole itself, which is beyond the most northern known point of land in the world. One expedition only has ever had this experience — Nansen and his companions on the polar drift in the Fram in 1893–96.

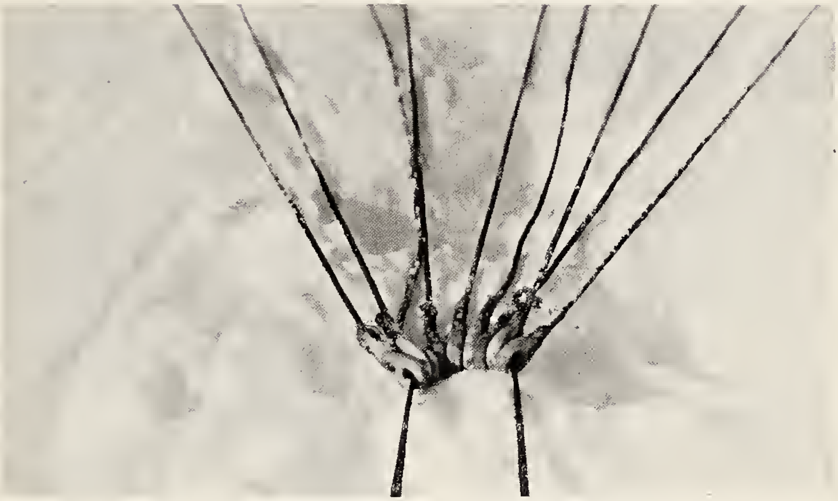
I mention these facts because so many explorers have claimed or implied total darkness at their winter quarters. They have also failed to state for the enlightenment of readers that there are as many moons in the North as in the South and far more hours of moonlight to be enjoyed, since the moon is continuously above the horizon each month a period of *eight days*, bathing the snow-covered hills and filling the dark fiords with a silvery flood which transforms all into a veritable fairyland.

Of interest also is the paradoxical fact that the moonlight is *increasing* each year in the North and will continue to do so for about ten years. An expedition to the North ten years hence is to be envied because of its prospective glorious moonlight nights. Without being too technical, I may say that this is so because of the so-called lunar cycle, an increase and decrease in the moon's declination lasting through a period of nineteen years.

On November 20th, I decided to run down to Etah with our two Eskimos who wished to set a few fox traps in that vicinity. Bromfield united his dogs with those of Kah-ko-tchee′a, while I rode with E-took′a-shoo. It seemed good to get on the trail again behind the dogs, to hear the crunch of the sledge and the snap of the whip. But such a trip is not all pleasure, else pleasure would be wanting. We found open water dashing against the black cliffs of Cape Hatherton, and therefore were compelled to plod through deep snow up the valley and over the Cape, sweating and puffing. At length we reached young ice on the south side and were away again as happy as boys, winding in and out among the numerous icebergs frozen into the newly forming sea ice and ever keeping a constant watch for polar bears, for we all needed pants. A good-sized bear will furnish enough material for at least two pairs, unsurpassed in durability and warmth by any known material. Caribou skin is warm and light, but cannot withstand hard usage.

We reached Polaris Beach in four hours. From this point, because of open water between Littleton Island and the mainland, our route lay over the hills to Etah. A hard

THE TEAM



HOW THE DOG TRACES ARE FASTENED
Let go one end of the rawhide line and away go the nine dogs

BROTHER JOHN'S GLACIER, ETAH FIORD

A GIGANTIC GLACIER

climb brought us to the top among jagged rocks projecting up through the snow, which fairly ruined our sledge runners. As we started south through the valley, the moon broke through the clouds, bringing the inequalities of the snow surface into sharp relief and greatly aiding us in picking a route.

Etah Hill was as steep and as slippery as ever and threatened to wreck sledge and dogs if we relaxed vigilance or strength for a second. With constant application of the twenty-six-foot whip our Eskimos succeeded in keeping the dogs behind the sledges which were cautiously lowered a few inches at a time until they safely reached the ice foot above the harbor ice.

We drove rapidly up the fiord on the smooth sea ice to Panikpa's home, abandoned as we thought. We were delighted at the sight of a cheerily lighted window. Kanga and Sulming-wa had found a good home — why leave it? There were little auks cached under the rocks, walrus meat aplenty, oil for the lamps, and ducks' eggs at Littleton Island by the thousand! 'Good enough for us, so here we are!' Yes, they were there with the pups scurrying into all corners as we entered. The small rock-hay-wood-sod-bone-cloth house was warm, but — how in the world could six of us all sleep in the one bed? We all tried, but one, the smallest, Kah-ko-tchee′a, was squeezed out and slept behind the stove on a shelf.

The following day the men started for their fox traps and I to Alida Lake and Brother John's Glacier, the former named by Dr. Isaac Israel Hayes after a friend of Sonntag, his astronomer; the latter by Dr. Elisha Kent Kane after his brother, Dr. John Kane, of Philadelphia. With considerable interest I crossed the glassy, windswept surface of the lake to the face of the glacier, eager to learn of its advance during the last six years. Its progress into the lake and toward the sea was marked. Owing to the semi-darkness I was unable to sight between my established marks of 1916 and thereby determine exact measurements. But there is not the least doubt of the fact, which is contrary to the opinion of all but a few of our eminent geologists, that all glaciers north of the seventy-fifth parallel of latitude are increasing in size. To supplement my own observations extending through a period of sixteen years, the natives all affirm that glaciers distant from the sea during their childhood are now in the sea; that their playgrounds at the edge of glaciers, once bare, have now disappeared beneath the advancing ice.

Inglefield's map of 1852, showing the relative amount of glacier-covered land, differs markedly from that of to-day. Captain Inglefield reports Mittie and Saunders Island off the eastern coast of Ellesmere Land in latitude 77° 12′. These islands have been prominently displayed on our maps and charts for seventy-two years. But there are no such islands. Were two icebergs mistaken for islands, as has often happened, or are they to-day under the advancing ice cap?

Dr. Hayes's map of Foulke Fiord, Alida Lake, and Brother John's Glacier, drawn in 1861, reveals a striking difference as regards the lake and the front of the glacier. The valley is to-day filled with ice and the glacier dips into the lake. I might cite scores of such instances of undoubted advance.

The present condition clearly indicates a cycle of increased precipitation and lower temperature if nothing else. As to the cause of such cycles, apparently in the Alps and in certain parts of North America, students of physical phenomena are not agreed. And as to whether or not such an advance portends the beginning of another great ice age, no one can predict. Nor do geologists agree as to how a great ice stream *moves*, or apparently flows like a river. Various theories have been advanced by scientists, but these do not satisfactorily explain all phases of the downward movement of the great frozen mass, the drainage of the snowfall on the heights above. The most popular, perhaps, is that of a melting through pressure of each ice crystal in turn, a downward change in position, and an immediate refreezing. That there is a forward bodily movement of the whole mass, particularly at the terminal end of the glacier, is certain, as is clearly evidenced by the enormous pressure exerted against the ice surface of the lake, causing rupture and upheaval at every part contiguous to the face of the glacier. Such a movement hardly coincides with the regelation or melting-refreezing theory.

With interest I crawled in under the glacier as far as possible and placed my ear to the surface of the ice and with added interest I could hear distinctly a faint crackling throughout the mass indicative of a tremendous strain. Such might result from movement induced by expansion of newly forming ice crystals through freezing. I eagerly awaited the return of light in the spring to visit again the most interesting phenomenon in the North.

Our six days at Etah were pleasantly spent in visiting familiar scenes about our old winter quarters. In the evening Kanga and Sulming-wa told me of their customs, their traditions, and of their people long, long ago; even of first man and first woman, as told to them by their parents, and as narrated in their igloos during the winter months when the sea ice freezes and people gather from far and near.

Yes, although a very primitive people, they have pondered over the creation of the world. They wonder who made it, when He made it, and why He made it. Strange that they should think it dropped down from above, not in its entirety and as it is, but piece by piece, in view of the fact that the accretion theory is being more widely accepted every year. Or is this belief founded upon the tradition that many years ago ashes came down out of the sky and fell upon their villages, not once but repeatedly.

So positive were they in their statements that Peary and other members of his party were quite convinced that somewhere in the interior of Greenland there were or had been active volcanoes.

'Yes, the world came from above, but the people? There was one man and one woman, but where they came from no one knows. Some say they came from the earth as the dogs did. But at this time it was dark and there was no light and there was no death; consequently there were great numbers of people in the world, so many, in fact, that all could not find food. Some one said: "It is better to have death and light than live forever in the darkness." Now we know how to die and it is better, for we have the light. When separated from our friends by open water during the long summer, we do look forward to the dark days of fall and to our visiting month [November] when the sea becomes a great highway, but it is the summer which we really like. And why? Because there is food everywhere. There are young gulls on the cliff, there are trout in the lakes, there are seals at our very doors. Yes, it is better to have death and have light and warmth of summer.

'Our people also told us that at one time our land was all under water. We wonder when and why, and if it will ever be so again. How could it happen? Does the land move up and down like the sea? We think so. Some of our old igloos are now too close to the water's edge. When made by our people many, many years ago, they must have been farther back from the sea. There is another reason why we think this land was under water. This cliff behind us is very high [11,000 feet], yet on its very top, in fact all over these big hills, we find bits of shells. Shells belong in the ocean, for there only can they live. Yes, the sea flowed in over our land. But that must have been long before we came to this part of the world. Long, long ago we lived over in the land of the musk-ox

[Ellesmere Land]. Our tent rings and our old stone igloos can be seen there now and even on lands beyond. Some of our people came from a land south of the musk-ox land [Baffin Land]. One of this band is even living to-day, and old Merqusaq, the one-eyed bear hunter, who well remembered it all, died only a few years ago. We have often heard him tell the story when darkness had crept over our land, for then we have time to think of the past and tell of the great deeds of men who were stronger than we are to-day.

'Merqusaq was only a boy when Qitdlarssuaq declared he was going on a long journey into the North to see a strange people described by the white men who came to his country every year in big ships to hunt whale. The people believed in Qitdlarssuaq because he was an "angekok," one who could talk with good and evil spirits, who could even visit the lower and upper worlds, who could even jump right out of his skin if you closed your eyes and kept them closed. In those days there were many such men. To-day they are all gone.

'So when Qitdlarssuaq declared he was going to a strange land, many wanted to go, more than one can count on one's fingers and toes, for that is the way we count. Beyond that it matters little; twenty is really enough. Things did not go well. After two years of wandering some lost faith in the great Qitdlarssuaq and wanted to return, and many did, for they wanted to see their home again.

'A few went on northward and now they could see a land to the east, which was our land here. It was but a short distance across the ice and here they camped at Etah. They found the stone houses of the Innuit, but no people. Since it was spring, our people had gone down to Peteravik to hunt walrus.

'But, much to their surprise, they did find a small wooden house, which they knew was built by white men, for the Eskimos never build anything like that. [Small observatory left by the Hayes Expedition at Port Foulke in 1861.] With fire stone [iron pyrites] they made a fire in their soapstone lamps. And here in the house they found some black powder in a can. They wondered if it was the same they had seen on the whaling ships. It was. It blew the door off the hinges and blew one man right out of the house! But no one was killed.

'Within a few days they met some of our people from the south and traveled with them to their homes. They remained here quite a number of years and then they yearned for their own land and their own people. It is always so with us. We cannot remain in one place long. And so they left our land and started back. One family remained, your grandfather, E-took′a-shoo.

'They journeyed north and crossed the narrow sea at Anoritok and traveled south along the eastern coast of that land which we can see from the door of our igloo. When darkness came they stopped for the winter in stone houses. Qitdlarssuaq died at that place. After traveling another summer they camped again, but they were so anxious to reach home that darkness came on before they could gather food for the winter. Many died because they had nothing to eat. And now they began to eat each other. We have never known this to be done before. You have often seen Merqusaq and you remember that he had only one eye?'

'Yes, I heard that he lost it in a fight with a polar bear,' I answered.

'No, when all were starving over there on that coast one man tried to kill him because he was nothing but a boy and could not defend himself. He gouged out one eye and would have killed him had not Merqusaq's brother helped him. Some went into the mountains and never returned. Some were lost crossing the big glacier. None of them ever reached their home in the west. A few struggled back again to our land, and here they remained and died among our people. But their tales during the dark period were always of their homes which they failed to reach.

'They are with their people now. All the stars which you see in the sky are the spirits of our people. Some day we shall all be together and living much as we are living here, but with more warmth and light and food. Our life there will not be a continuous struggle against evil spirits, as it is here. We do not believe in one great good God as you do, and we never ask such a God to help us. If there is such a God and he is good, He will help us. True, we do have our protecting guardian spirits who watch over us in times of danger. We fear the evil spirits and try to appease them in many ways.

'When one dies, worn out as our sledges wear out, and strength and life are gone, he is simply passing from this life on to the next. To live beyond he must have his hunting equipment. His dogs are strangled and placed beside his grave. His sledge is broken to release its spirit for it is alive. It must be "killed." There you will find his harpoon, his lance, his sealskin line, his knife.

'At the feet of the mother may be found her soapstone cooking-pots, broken into small pieces or with bottoms perforated. There also her needle, thread, drying-rack, and little oo-loo, the woman's knife. Yes, we must prepare for the life beyond, for there we shall be forever. Our names, however, with our qualities, return to earth and to our friends in the body of a newly born child, so that they may still enjoy us and be with us. A little child is never punished, for in the body of the little one may be the spirit of your own father or mother.

'Our dead are never placed underground. If they were, the spirit could not leave and enter the body at will. To-night it is at home within the body; to-morrow it may be in a distant world. Immediately following death we wrap the body in seal and caribou skins and carry it a short distance from the village and place it upon the ground, with sometimes a rock for a pillow, not facing the sun or back to the sun, for our people often die when there is no sun. A mound of rock is built over the grave. But no rock must touch the body. The spirit must be free to go and come.'

To talk with people living almost as cavemen lived is a rare privilege. In a single evening we span millions of years of so-called progress and get a right perspective of the past. Wonderful things accomplished and yet the astounding revelation — the brain has apparently remained unchanged for thousands of years.

We have here a very primitive people, I mean that they clothe themselves in raw skins, never bathe, eat largely of raw meat, live in a hole in the ground. They have no books, no schools, no written or even sign language, no marriage laws, no laws at all but the laws of custom, no king or queen or chief, or leader of any kind, no music but the most primitive, wanting really only two things, the two great essentials — food and shelter; and yet it is my opinion and that of every man who has accompanied me on my various trips that these so-called savages are every bit as *intelligent* as the most highly civilized. We often confuse intelligence with knowledge. These natives are really intelligent. They merely lack the essentials for progress — material with which to work.

We were up at two o'clock on the morning of the 27th for an early start for home and Thanksgiving. By four we were away, calling at our old winter quarters for two five-gallon tins of seal oil for the Eskimo lamps. The top of the Etah Hill found us puffing and sweating, although the temperature was at zero Fahrenheit. We were preceded by E-took'a-shoo with an enormous back-load of grass, in the half light looking for all the world like a shaggy musk-ox being followed by the yelping dogs.

At noon we were back in our comfortable cabins on board the Bowdoin reading the many radiograms received during our absence, and in time for the Wednesday night radio programme from the Edgewater Beach Hotel, Chicago. Through the kindness of E. F. McDonald, Jr., a programme was especially arranged for our entertainment on each Wednesday evening during our sojourn in the Arctic. On this particular night we easily recognized the voices of friends and relatives twenty-five hundred miles distant!

Thanksgiving naturally recalled thoughts of home, of fathers, mothers, brothers, sisters, and wives. We were all happy to know that they knew just where we were and how we were situated, a new experience for an Arctic expedition. Being at 78° 31′ North Latitude, or six hundred and eighty-nine geographical miles from the North Pole, possibly we were the most northern people in the world to commemorate the day. The weather was clear, with a strong breeze and thermometer twelve degrees below zero, conditions not altogether favorable for our rifle shoot by lantern light. Our individual paper targets threatened at times to necessitate a 'wing shot,' but eventually the scores were all in and tallied, showing Jaynes, our engineer, to be first; McCue, the mate, second; while Bromfield and Kah-ko-tchee′a tied for third place.

At 4 P.M., a very fashionable hour among the élite of the polar regions, we gathered around our yellow pine table in the forecastle and awaited impatiently for Bill, our real cook, to bring on the various courses, consisting of the following:

George Treat Cocktail
Tomato Soup
Roast Eider Duck with dressing
Sweet Corn
Sweet Potatoes
Apple Jelly
Mince pie Pumpkin pie
Plum pudding Nuts
Cigarettes Cigars

As a result of this 'gorge' most of the boys dropped to sleep immediately. Bromfield and I took the violin and visited the Eskimos in their box igloo, and especially the new baby, a month old. In the evening they returned our visit and were entertained with motion pictures and a very mild, and, according to a report, a decidedly unpalatable, 'home brew.' So ended the day inaugurated by our Pilgrim Fathers.

It was now so dark that we obtained water with difficulty from the small lake among the hills a half-mile north of the Bowdoin. This was carried daily in hundred-pound cans on the backs of the men, each one of the seven having a particular day in the week on which to supply the ship with twenty gallons of water. One hundred pounds is a convenient back-load providing one is walking on the level and has secure footing. Our trail, however, lay down a hard snow trail, made slippery by frequent spillings, winding in and out and over numerous boulders. The violent motions of some of the men to avoid a fall with this weight on their backs would have been extremely funny had it not been for the seriousness of the situation. Luckily we escaped with but a few bad falls which added a number of stars to the firmament which have never been catalogued. Following one of these experiences, when I landed flat on my back with the forty-quart heavy galvanized milk can as a pillow, I adopted the more sane method of transportation initiated by Jaynes, our smallest member — that of using a small sled.

E-took'a-shoo, our active native assistant, conceived an even easier method of obtaining water from the lake 'among the clouds.' He would drive up with his dogs and sledge and bring it down to the ship! I wasn't 'in at the death,' but I heard about it! It was a bit difficult to learn the details of what really happened and what the dogs were dragging when they arrived home. The next day his fat face lighted up with a gleam of intelligence when I told him that down in the white man's country we had shoot the chutes, loop the loops, escalators, moving platforms, and revolving tables. He understood perfectly. The remains of the sledge and the water were up on the side of the hill. E-took'a-shoo carried his water after that as the white man did!

On December 5th we enjoyed an Aurora, one of the very few seen by us throughout the year. It was in the form of a curtain extending from northeast true to southwest, roughly toward the North Magnetic Pole. It is strange to think of our being beyond the Northern Lights, but such was our position. This electrical phenomenon is not so frequent in the Far North as many believe, but seems to center in a belt encircling the earth on about the fifty-fifth parallel, which runs through the southern part of Hudson Bay, Central Labrador, and Western Canada. Just what the Northern Lights are, when they come, and the cause, are questions which investigation in atmospheric electricity is trying to answer.

December 5th was one of the expedition's festive days, the birthday of my chief assistant and after-cabin mate, Ralph Robinson. All birthdays were observed in our little community with as much honor as conferred upon Washington or Lincoln. 'Robbie' was always indefatigable in his endeavors to provide us with the best afforded by the commissary on such occasions. To him I entrusted the care of all provisions, the planning of each day's meals, and a careful account of all foods consumed up to the minute, and a list of food available for sledging parties. I never knew whether we had one pound of sugar or fifty, one barrel of beef or five. He relieved me entirely of every detail of the whole problem.

Three birthdays in one week almost equaled the holidays in Newfoundland! Bromfield, Jaynes, and Mix followed each other in 'concussion,' as the cook said, on December 10th, 12th, and 15th. Robinson must have been thankful that our party consisted of only eight men, and that no more birthdays were to be celebrated until some time in March.

December 22d was the midnight of the long Arctic night. On that day the sun had reached its farthest south. Midday was practically as dark as midnight. A southerly storm with strong wind and drifting snow was raging — truly an Arctic midnight, but one which as yet had threatened no evil, nor brought any impairment of health, nor diminished in any way the general good feeling and happiness among my men, not even when on that dark stormy day Robinson unpacked our roasted Christmas turkey, a generous gift of the Elmwood Farm of Leominster, Massachusetts, and found it spoiled, due to imperfect packing! The one carried to Baffin Land in 1921 and presented by the same farm was in perfect condition.

Fortunately we had a large jar of roast chicken which was presented to us by the wife of my old college classmate, Harlan Bisbee. This made an admirable substitute and offered my men a choice between Greenland eider duck, of which we had plenty, and a home domesticated product.

Our dinner, with the exception of the turkey, was generously given by the S. S. Pierce Company of Boston. It included the following:

Epicure Fruit Cocktail   Assorted Hors d'Œuvres
Filet de Shon Caviar Meli-Melo
Macedoine au Vinaigre   Queen Olives
Clear Green Turtle Soup   H. & P. Dinner Biscuit
Roast Stuffed Turkey, Brown Gravy   Cranberry Sauce
Beach Plum Jelly   Haricots Verts   Asparagus Tips
Petits Pois   Corn on the Cob
Candied Sweet Potatoes   Squash   Chow Chow
Plum Pudding with Sauce
Nuts   Fresh California Dates
Malaga Raisins   Preserved Skinless Figs
Glacé Stuffed Cumquats   Sugar Wafers   Water Crackers
Roquefort and Cheddar Cheese   Tea   Coffee
Romeo Julieta Perfectos   Cigarettes

It was almost with a feeling of guilt that we ate and ate, and then tasted a bit more. Think of such a meal as that at the top of the earth where so many former explorers had craved even a half or quarter meal! Kane and his men, only a few miles away, were eating the rats on board their ship; Greely and his command across the Sound eked out a miserable existence for a few months on a few ounces a day. Our friends at home are inclined to pity us for our privations and lack of good food. Nothing makes a man quite so small as undeserved pity or unmerited praise.

It was with even more pleasure that we watched the Eskimos eat after we were through. They certainly enjoyed our food and were fond of sweets, which neither they nor their ancestors had ever had. They pride themselves on the fact that they can eat everything which we eat (and much more), but we cannot stomach all that they call food. To fail in this is a bodily weakness and merits their sympathy!

We were in Santa Claus Land, only a few doors from his splendid big ice palace filled to overflowing with gifts of all descriptions. He could not fail to welcome us as his guests and pay us frequent visits in return. The Eskimos are well acquainted with him now and appreciate the spirit of the day through their teacher-missionary, Mr. Ohlsen.

It was almost with tears in my eyes that I received a Christmas gift from my old driver, E-took′a-shoo, a dog whip, singularly appropriate and a reminder of many happy days together on the trail. When our natives gathered around our table in the evening, they looked upon a curious assortment of packages piled high about a real Christmas tree from Bustin's Island in Casco Bay. What fun we had calling the names and surprising the Eskimos! It is safe to say that they never received so many gifts at one time in their lives.

A touch with the homeland added to our pleasure. WOAW, of Omaha, Nebraska, was kind enough to offer us a special concert, the numbers of which were selected by the members of my crew. In fact many stations and especially E. F. McDonald, Jr., of the Zenith Station in Chicago, were overwhelmingly kind in offering what they could to relieve the monotony of the long, dark Arctic night. Messages of hoped-for happiness for the New Year came pouring in nightly from throughout America and even from far-away Honolulu.

The following message from the President, received through Barnsley of the 9 BP, station of Prince Rupert, British Columbia, was especially gratifying:

> The best wishes with all compliments of the Holiday season, and hearty good wishes, in which the American people join, for the health and safety of you all, and for the success of the expedition.
>
> (Signed) CALVIN COOLIDGE

The National Geographic Society of Washington remembered that we were endeavoring to carry out the mission entrusted to us. Through General A. W. Greely, one of their board, President Grosvenor forwarded the following:

> Even in its days of darkest distress the Greely Expedition made Christmas Day a day of rejoicing and prayers. Our most earnest desire was knowledge of the health and happiness of the dearest ones at home. Science and circumstances spare you such doubts.
>
> The National Geographic Society sends this Christmas message of good cheer to all the members of the MacMillan Expedition with its assurance that their health and success are dear to our hearts. Happy New Year.
>
> (Signed) A. W. GREELY

Science had so annihilated distance that it was at times hard to realize that we were living amid the scenes of former expeditions, cut off as completely from civilization for years at a time as if they were dwelling upon another planet. Our experience recalled the words of Macaulay, 'Of all inventions, the alphabet and printing press alone excepted, those that have shortened distance have done the most for humanity.'

CHAPTER IX

WINTER ACTIVITIES: ESKIMOS VISIT THE SHIP

Thus far we had experienced no extremely cold weather, that is, cold for our locality; thirty degrees below zero, Fahrenheit, being our lowest temperature on December 17th. Such a temperature with no wind to one properly clothed is very comfortable. In fact, as I recall sledging days with the thermometer at forty, fifty, and even sixty degrees below zero, not one is remembered for suffering entailed, but scores of days with strong wind stand out as prominently as high peaks on a distant horizon. Wind is the bitter and most hated enemy of the Northern sledge traveler. It does more to rob men of good health than any other one factor, for they will not exercise for health's sake on blustering days. Sleep is substituted, and sleep kills when it is not needed. I have seen more physical breakdowns in the Far North due to sleep than to the hardest kind of cold work with dogs and sledge.

The great problem in the North is how to keep men healthy during the dark and necessarily inactive period. Exercise is imperative for men who are not only well fed but overfed. I find the greatest incentive to get out and tone up the body is a fox trap at the end of the line. A man will put on heavy clothes, plod through deep snow and face cutting winds to reach the hoped-for prize. He will return iced-up and with frost-bitten face, but not discouraged. The fox will be there to-morrow.

My men, with one exception, all had traps, which did more to keep them in good health than any plan of exercise which I could have devised. We had no 'ladies' mile,' or run around deck, or setting-up drill, and practically no sickness throughout the year. Scurvy, formerly the dread of all explorers, is not feared by men who eat plenty of native food such as seal or walrus. Let it be remembered that this much-discussed disease was unknown among the Eskimos, who eat nothing but meat. Lime juice, fruits, bread, variety of food are not necessary for maintenance of health in the Arctic. Charles Francis Hall was the first to test the truth of this more than sixty years ago. Peary confirmed this later by repeated experiences during his eighteen years of Arctic work. This truth was also well known to our American whalemen more than eighty years ago, and yet physicians would not believe. Even to-day there is a law on our statute books compelling ships on long voyages to serve so many ounces of lime juice per day to each man as a preventive against scurvy!

Our days during the winter were spent in almost daily walks, in tending fox traps, in keeping up the snow embankment about the ship, in repairing our snow houses, in bringing twenty gallons of water daily from the lake among the hills, in keeping passageways clear of snow, in visiting Eskimos in their igloos, in reading, studying, writing, and in taking magnetic and meteorological observations. Following supper in the evening there were always games on in the forecastle until midnight, such as checkers, chess, fan-tan, mah jongg, the last-named absorbing the attention of four of the men for weeks. On Sunday night we usually entertained our Eskimos with motion pictures, very generously supplied to the expedition by the Pathé Company. In view of the general opinion that life in the North during the dark period must necessarily be monotonous, every one of my men remarked on the rapidity with which the days were passing.

Each day following New Year's Day was brighter and colder, confirming the old saying, 'When the days begin to lengthen, the cold begins to strengthen.' Our coldest during this month was forty-two degrees below zero. This increased to forty-five in February, which proved to be our lowest temperature, warmer by fifteen degrees than I experienced at this same spot in 1914. This comparatively warm temperature can be attributed to the fact that we were living practically within the immediate vicinity of some five hundred square miles of open water, which maintains a constant temperature, winter and summer, of +29.2° F.

In my five years of living in this vicinity, I have never known Smith Sound to be completely covered with ice. The Eskimos affirm that it never is. The radiation of heat from the surface of this great mass must be enormous. The result is a raising of the mean annual temperature by several degrees.

In refutation of the claim by a well-known so-called 'authority,' that it is as cold in certain parts of the United States as it is in the Arctic, let me state that there is no comparison, as our six years' observations beyond the Arctic Circle prove. Such agree with the observations of Greely, Nansen, Sverdrup, and Peary.

The minimum temperature officially recorded in the United States by the Weather Bureau is −65° F. at Fort Keogh, near Miles City, Montana, January, 1888. The coldest State in the Union is North Dakota, with a normal annual temperature of +38.8° F., which was about the average of our hottest month at Etah. Compare and contrast this with temperatures recorded by the Greely Expedition in 1881–84 when at their winter quarters at Fort Cough, Lady Franklin Bay, where they experienced a mean annual temperature of about zero. During our four years at Etah, in spite of open water, our mean was +6° F.

Well protected by a snow covering, the Bowdoin provided a perfect shelter against this temperature. Designed especially for low temperature with double sheathing and air spaces, our ship showed hardly a trace of moisture in her living quarters. The reader of Arctic literature may contrast our experience with that of Kane, Hayes, Nansen, and Peary.

On the S.S. Roosevelt in 1908–09 our mattresses and bedclothes were frozen to the bulkhead, and ice was frequently chopped from the floors of our rooms and from our inner decks. If moist air cannot escape, it is bound to collect in a condensed form upon every cold surface. If that surface is of freezing temperature, the result is ice, which throughout the winter increases in thickness. Proper ventilation is the remedy for this evil on shipboard. This was accomplished on the Bowdoin by building a snow house over our forecastle skylight, which was generally kept slightly open day and night, permitting all foul and damp air to escape.

We were disappointed in not having more Eskimo visitors from the south. True, the nearest village was sixty-five miles distant, but with a good dog team and good ice such a trip is a pleasure. The reason was disclosed when E-took′a-shoo and Kah-ko-tchee′a, our two natives, came in on January 3d from Etah, reporting open water everywhere to the south. Furthermore, the Cape Alexander Glacier and Etah district are known to be the windiest places on the coast. Over and through this all sledges must come to reach us at Refuge Harbor.

By the last of January, our natives were out of oil for their igloos, a serious situation, since we needed every drop in our tanks for the passage home. I suggested that they return for a month or so to their homes, where each of the men had oil in cache. They could return to the ship in plenty of time for our spring work. Rather than do this, they determined to try for seals at their breathing-holes, a cold job at this time of year. Looking out upon the silence and the darkness and the deadness of it all, I thought it incredible that there could be a living thing to furnish heat and light and food. Yet E-took′a-shoo, bundled in furs, drove away on January 25th on what I thought must be a hopeless quest. There on that great white stretch of sea ice he discovered the tiny hole, which is about the size of a fifty-cent piece; fashioned a seat from a block of snow, and sat patiently for twenty-four hours with the thermometer ranging from eleven to twenty-two degrees below zero, and brought in his seal! There are still some iron men in the world in spite of the debilitating effects of civilization, and many of them live in the Far North!

And there are iron women as well! On February 8th a stranger arrived, a baby born to Ah-tung-u′nah, in a snow house with the temperature outside at 45.1° below zero! Although it was the first child born to this young girl, there were no doctors or nurses in attendance. Conditions were far from sanitary and would have astounded the medical fraternity. The secret — good health and a strong constitution. The mother and child were perfectly well and continued so up to the time of our sailing. The fact may be of interest that Eskimo children are never born in a regular winter home, a rock igloo, semi-subterranean and buried with grass, skins, and snow. If mother or child should die, as sometimes happens, the home must be instantly abandoned by all and is never used, at least by the present generation. The igloo henceforth will be occupied by the spirit of the dead. Strange how persistent and almost universal this superstition, not only in the minds of the highly civilized, but in the brain of the savage.

On February 20th, four Eskimos arrived from the south, Oo′tah, who accompanied Peary to the Pole, his son, Koo-e-tig′e-to, his brother, Poo′ad-loo′nah, and Oo′lie, who was with us for four years at Etah. They informed us that many had tried to reach us during the winter, but had been driven back by wind and open water. Our visitors were intensely interested in the ship, minutely examining every article of our equipment. Naturally the motion pictures astonished them beyond measure; and when they heard human voices from home coming through our loud-speaker, I wondered if they really believed that we were listening to friends twenty-five hundred miles away. At any rate, the word went down the line that we were hearing voices and they wondered — so did we!

On March 12th, I decided to cross Smith Sound to Cape Sabine and visit the Starvation Camp of Greely, a reconnaissance of a trip later when we planned to sledge the bronze memorial tablet to Ellesmere Land. I was also desirous of establishing a magnetic station at this point, which might be used for future reference by the Carnegie Institution. The more numerous such stations about the Magnetic Pole, the more accurate will be our knowledge concerning the secular changes in the earth's magnetism.

E-took′a-shoo, Kah-ko-tchee′a, Bromfield, and I got away about eleven o'clock with two sledges and twenty dogs, traveling on a smooth belt of ice bordered on right and left by the crumpled pack. The progress on such a trip is always uncertain, as this stretch of twenty-eight miles differs markedly from year to year, its condition depending upon prevailing winds the preceding fall. I have crossed repeatedly in six hours, having excellent sledging surface from shore to shore, while in other years the passage has consumed two days, each man resorting to a pick to hew a way for his dogs and sledge.

When about halfway across, our highway swung to the southward toward open water. Rather than attempt the rough ice, we followed the trend of the curve, and were happy to find an old floe of some five miles in width over which we headed for Brevoort Island at a rapid pace. Passing by Payer Harbor, the winter quarters of Peary in 1900–02, we proceeded along the northern shore of Bedford Pim Island to the site of Camp Clay. We built our snow house in a small cove or bight to the east of Cemetery Ridge, the same, I suppose, where the relief party landed on that memorable Sunday evening of June 22, 1884.

Although we had been eleven hours on the road, and the thermometer was at twenty-six degrees below zero, I could not crawl into my sleeping-bag until I had again visited the camp, the whole setting of which had so impressed me upon two previous visits.

Cemetery Ridge was swept bare of snow, revealing ten shallow graves, one bordered by a row of stones, that of Sergeant Cross, who was the first to die. The site of the tent where the survivors were found was easily recognized by the ring of rocks which held it down. The ground was littered with odds and ends of every description. Before us lay Cross Lake, the source of their water supply, and beyond were the four walls of their miserable hut, twenty-five by seventeen feet, sharply outlined against the snow-white background. It was at its best a bleak, desolate spot for a home, being situated on the north side of the island and subjected to terrific cold winds sweeping across Buchanan Bay, as numerous zastrugi indicated. It was bleak beyond description, but hallowed ground. No place on earth will ever move me like that frozen bit of bare soil where those men suffered and died. The present generation may not be familiar with the details. Let me quote from 'The Rescue of Greely':

> It was half-past eight o'clock in the evening as the cutter steamed around the rocky bluff of Cape Sabine, and made her way to the cove, four miles further on, which Colwell remembered so well from his hurried landing with the stores on the terrible night following the wreck of the Proteus. The storm, which had been raging with only slight intervals since early the day before, still kept up, and the wind was driving in bitter gusts through the openings in the ridge that followed the coast to the westward. Although the sky was overcast, it was broad daylight — daylight of a dull winter afternoon — and as the cutter passed along, Colwell could recognize the familiar landmarks of the year before; the long sweep of the rocky coast, with its ice foot spanning every cove, the snow gathered in the crevices, the projecting headlands, and the line of the ice pack which had ground up the Proteus, dimly seen in the mists to the north, across the tossing waters of Kane Sea. At last the boat arrived at the site of the wreck-cache, and the shore was eagerly scanned, but

nothing could be seen. Rounding the next point, the cutter opened out the cove beyond. There, on the top of a little ridge, fifty or sixty yards above the ice foot, was plainly outlined the figure of a man. Instantly the coxswain caught up the boat hook and waved his flag. The man on the ridge had seen them, for he stooped, picked up a signal flag from the rock, and waved it in reply. Then he was seen coming slowly and cautiously down the steep rocky slope. Twice he fell down before he reached the foot. As he approached, still walking feebly and with difficulty, Colwell hailed him from the bow of the boat:

'Who all are there left?'

'Seven left.'

As the cutter struck the ice, Colwell jumped off and went up to him. He was a ghastly sight. His cheeks were hollow, his eyes wild, his hair and beard long and matted. His army blouse, covering several thicknesses of shirts and jackets, was ragged and dirty. He wore a little fur cap and rough moccasins of untanned leather tied around the leg. As he spoke, his utterance was thick and mumbling, and in his agitation his jaws worked in convulsive twitches. As the two met, the man, with a sudden impulse, took off his glove and shook Colwell's hand.

'Where are they?' asked Colwell, briefly.

'In the tent,' said the man, pointing over his shoulder, 'over the hill — the tent is down.'

'Is Mr. Greely alive?'

'Yes, Greely's alive.'

'Any other officers?'

'No.' Then he repeated absently, 'The tent is down.'

'Who are you?'

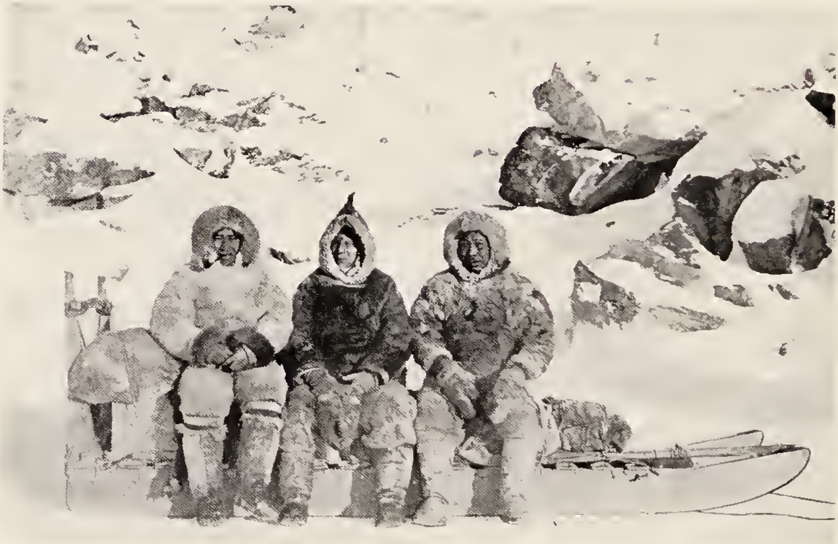
'Long.'

Before this colloquy was over, Lowe and Norman had started up the hill. Hastily filling his pockets with bread, and taking the two cans of pemmican, Colwell told the coxswain to take Long into the cutter, and started after the others with Ash. Reaching the crest of the ridge, and looking southward, they saw spread out before them a desolate expanse of rocky ground, sloping gradually from a ridge on the east to the ice-covered shore, which at the west made in and formed a cove. Back of the level space was a range of hills rising up eight hundred feet, with a precipitous face, broken in two by a gorge, through which the wind was blowing furiously. On a little elevation directly in front was the tent. Hurrying on across the intervening hollow,

WHERE GREELY AND HIS PARTY WAITED SO LONG FOR HELP TO COME

THE LOOKOUT POINT OF THE GREELY PARTY AT CAPE SABINE

TRAVEL BY DOG-TEAM OVER LONG WHITE STRETCHES



KAII-KO-TCHEE-A, BROMFIELD, AND E-TOOK-A-SHOO BACK FROM A SPRING TRIP

Colwell came up with Lowe and Norman, just as they were greeting a soldierly looking man who had come out from the tent.

As Colwell approached, Norman was saying to the man: 'There is the Lieutenant.' And he added to Colwell: 'This is Sergeant Brainard.'

Brainard immediately drew himself up to the 'position of the soldier,' and was about to salute, when Colwell took his hand.

At this moment there was a confused murmur within the tent, and a voice said: 'Who's there?'

Norman answered, 'It's Norman — Norman who was in the Proteus.'

This was followed by cries of 'Oh, it's Norman!' and a sound like a feeble cheer.

Meanwhile one of the relief party, who in his agitation and excitement was crying like a child, was down on his hands and knees trying to roll away the stones that held down the flapping tent cloth. The tent was a 'tupik' or wigwam tent, with a fly attached. The fly with its posts and ridge-pole had been wrecked by the gale which had been blowing for thirty-six hours, and the pole of the tupik was toppling over, and only kept in place by the guy-ropes. There was no entrance except under the flap opening, which was held down by stones. Colwell called for a knife, cut a slit in the tent cover, and looked in.

It was a sight of horror. On one side, close to the opening, with his head toward the outside, lay what was apparently a dead man. His jaw had dropped, his eyes were opened, but fixed and glassy, his limbs were motionless. On the opposite side was a poor fellow, alive, to be sure, but without hands or feet, and with a spoon tied to the stump of his right arm. Two others, seated on the ground, in the middle, had just got down a rubber bottle that hung on the tent-pole, and were pouring from it into a tin can. Directly opposite, on his hands and knees, was a dark man with long matted beard, in a dirty and tattered dressing-gown, with a little red skull cap on his head, and brilliant, staring eyes. As Colwell appeared, he raised himself a little, and put on a pair of eye-glasses.

'Who are you?' asked Colwell.

The man made no answer, staring at him vacantly.

'Who are you?' again.

One of the men spoke up: 'That's the Major — Major Greely.'

Colwell crawled in and took him by the hand, saying to him 'Greely, is this you?'

'Yes,' said Greely, in a faint, broken voice, hesitating and shuffling with his words. 'Yes — seven of us left — here we are — dying — like men. Did what I came to do — beat the best record.'

Then he fell back exhausted.

The four men in the tent with Greely were two sergeants, Elison and Fredericks; Bierderbick, the hospital steward; and Private Connell, who, with Brainard and Long, were all that remained of the twenty-five members of the Lady Franklin Bay Expedition. The scene, as Colwell looked around, was one of misery and squalor. The rock floor was covered with cast-clothes, and among them were huddled together the sleeping bags in which the party had spent most of their time during the last few months. There was no food left in the tent but two or three cans of a thin, repulsive-looking jelly, made by boiling strips cut from the sealskin clothing. The bottle on the tent-pole still held a few teaspoonfuls of brandy, but it was their last, and they were sharing it as Colwell entered. It was evident that most of them had not long to live.

Connell was for the moment in the worst condition of all. When Colwell first saw his nearly inanimate body, it seemed that life was extinct; and in fact he had almost ceased to breathe. He was speechless, his heart barely pulsating, his body cold, and all sensation gone. The brandy which his companions were giving him revived him a little, and with returning consciousness, he could just gather the idea that relief had come, and that he must brace himself to live.

Elison, who was next to him, though not in such dire extremity, was little better off. His hands and feet had been frozen off in a journey made seven months before, in a vain attempt to get the English meat at Cape Isabella, and all that time he had lain helpless in his sleeping-bag. Cared for by the others, mind and body had wasted somewhat less than theirs, but he had nearly reached the limit of his endurance.

The two others in the tent, Sergeant Fredericks, and Bierderbick, the hospital steward, were too weak and exhausted to stand long, much less to walk. Their worst symptom, apart from their weakness, was their swollen condition. In their experience of the last six months, when they had seen the others pass away, one after another, they had learned to recognize this as the surest sign of the approaching end, and, although now their faculties were more or less blunted, they had realized that the hand of death was on them, and that a little more would put an end to the horrors of existence. Except Connell and Elison, the feeblest of the party was Lieutenant Greely. His strength was failing fast. He could not stand upright, and for some time he had not left his sleeping-bag. He lived on the food which the others brought him, but all pangs of hunger had ceased, and his wasted form and sunken eyes and swollen joints told plainly enough what was in store for him.

The two other survivors of the party, Long and Brainard, who had been first found, were in somewhat better condition. They were men of more than ordinary endurance, and it is of course idle to speculate upon what might have been their end if relief had not been in hand. Brainard, though much weakened, had latterly been Lieutenant Greely's right-hand man. Long had been the hunter for the starving party, and it was necessary to increase his pittance of food above that of the others, so that he might have strength for his work, but the effects of his continued effort could be seen in his wasted body. His journeys had grown shorter and shorter from week to week, and in the stormy weather which prevailed during much of the time at Cape Sabine, he could not go at all. As soon as Colwell understood the condition of affairs, he sent Chief-Engineer Lowe back to the cutter to put off to the Bear with Long, to report what had happened, and bring off the others with surgeon and stimulants. Fredericks and Bierderbick presently got up and came out. Colwell gave them, as well as Greely and Elison, a little of the biscuit he had in his pocket, which they munched slowly and deliberately. Then he gave them another bit, while Norman opened one of the cans of pemmican. Scraping off a little with a knife, Colwell fed them slowly by turns. It was a pitiable sight. They could not stand up and had dropped down on their knees, and held out their hands, begging for more. After they had each been fed twice, they were told that they had had enough, that they could not eat more then without danger; but their hunger had now come back with full force, and they begged piteously to be helped again, protesting that it could do them no harm. . . .

Meanwhile the Bear had arrived and Lowe had gone off in the cutter, taking with him Sergeant Long. Long was too weak to get on board without assistance, and was lifted over the side by some of the crew and taken to a chair in the ward-room. In reply to questions about the party and their condition, Long, in a husky voice, told his story: that all were dead except Greely and five others, who were on shore in 'sore distress — sore distress'; that they had had a hard winter, and 'the wonder was how in God's name they had pulled through.' No words can describe the pathos and this man's broken and enfeebled utterance, as he said over and over 'a hard winter — a hard winter'; and the officers who were gathered about him in the ward-room felt an emotion which most of them were at little pains to conceal. The first sign of the relief expedition which had reached the camp was the sound from the steam whistle of the Thetis, recalling the shore parties at Payer Harbor. Lieutenant Greely, lying on the ground in his tent, had heard it, as it was borne faintly over the neck of land, but the others had not noticed it in the roaring wind, and when he told them he had heard a steamer's whistle, they thought it only the impression of his disturbed imagination. Long crawled out of the tent and bracing himself against the wind, struggled up the ridge; but nothing could be seen but the rocky coast, and the ice foot, and the chopping sea with the pack stretching off in the the distance. It was a bitter disappointment. Long went back disheartened, but after waiting uneasily a little while longer, he mounted the ridge a second time. Still there was nothing to be seen but the same hopeless prospect, and he was about to return again when the cutter came into view around the point above. After all these months of waiting, it was hard to believe that he was not dreaming, but when he saw the coxswain wave the familiar flag, he knew that relief had come at last.

The next morning I went over the ground more minutely to select a fitting mount for the tablet. Fortunately, there were several huge boulders scattered about the grounds, several in the immediate vicinity of the hut and two or three at the south end of the lake at the base of Cemetery Ridge. A flat and preferably a sloping face was necessary; and this we found upon an erratic of fifty or more tons in weight, similar in texture and composition to the rock of Bache Peninsula across the Bay. Here I decided to place the tablet.

This done, from Signal Hill I studied the stretch of rough ice, bordering the whole north side of the island, selecting the most practicable route and entry into camp with our heavy sledges at some future date when suitable weather should permit.

We awoke on Friday to the roar of wind and drifting snow, and appreciated more fully the difficulties and trials experienced by that disheartened and weakened band of starving men. A contrast with our condition was inevitable: a comfortable snow igloo, the bed deep in furs, plenty of food and fuel, good dogs, strong sledges to go where we would, north, south, east, or west, where we could and should find food. We spent the day, I telling stories of the home land, which I could easily imagine to be on another planet; a land of great cities, of crowded streets, of a rushing, hurrying people, going no one knew where. They told me of quiet places, of stretching ice fields, of contentment, happiness, home, and of that great mystic land beyond the home.

Saturday, we were off for the end of the Cape to visit the English cairn of 1875, the Greely cairns of 1883, and to obtain photographs of Brevoort Island and Payer Harbor. This done, we swung out across the Sound, passing several huge tracks, and headed for home through a thick snowstorm, which whitened the men, dogs, and sledges. With the wind as our compass, we held our course over smooth and rough ice and finally emerged into a bright sunshine and a clear view of the Greenland coast at the end of the trail off Cairn Point. We were on board the Bowdoin at eight-thirty in the evening, feeling assured that one important purpose of our expedition would be accomplished in the near future.

Upon my arrival, I found an Eskimo boy on board, who with an excellent team of dogs had driven through from Keate, ninety miles to the south, to obtain medical assistance for a young man who was dying. The nature of his trouble we could not definitely determine. That he was growing weaker day by day and was bleeding from mouth and nose, and that his lungs were affected would indicate tuberculosis.

Reluctantly, and with regret, I was compelled to inform the bright-looking lad that we had no doctor on the expedition, but that we would send medicine or anything we had which he thought the dying man would want. We made up a box of delicacies which I hoped might brighten his few remaining days, but the young man was dead when the boy arrived home, although he drove straight through to his home *without a stop or sleep.*

Unknown here until a few years ago tuberculosis has undoubtedly invaded the extreme North, and will henceforth exact its toll. Considering their tent life during the five months of spring and summer and the free circulation of air in their rock igloos, one would naturally suppose such an evil to be impossible. Many of their houses, however, are overcrowded, and many I have noticed now have *doors.* With no medical advice or assistance of any description and amid conditions grossly unsanitary, such might be expected with the arrival of civilization; and by civilization I mean white man's food, clothing, ways of living, and half-breed immigrants from South Greenland.

On the 18th, five dog teams came galloping into the harbor. Three of the drivers were old friends, Oo-bloo'ya, who had given me my first ride behind dogs sixteen years earlier, and who accompanied the Peary party on the polar dash, his brother, In-you-gee'to, and Ak-kom'mo-ding'wa, one of my men in 1916. Each sledge contained large frozen chunks of fresh walrus meat. They had the good fortune to encounter a herd of these animals below Cape Alexander and harpooned them on young ice.

Their objective, after seeing the Bowdoin and its crew, was the Humboldt Glacier, one hundred and fifteen miles north in a quest for the King of the North, the polar bear. Their pants were becoming worn, therefore their journey to Nature's storehouse. How simple their wants on such a trip — a sleeping-bag and a few pieces of raw meat!

They returned seventeen days later with five beautiful skins and with sledges heavily laden. Their assertion that it had been very cold was borne out by a glance at their faces, all of which were badly frost-bitten. Unmindful of this and happy as boys, they drove off to the south to be admired by the inhabitants of every village through which they passed. A good bear hunter is universally esteemed and highly respected among the polar Eskimos. They are not bowing to false idols. They fully realize that after all is said the producer of food is the important man of the community.

On the 28th of March, I left the ship again, accompanied by our two Eskimos and Bromfield, for a trip south to Sulwuddy, fifteen miles below Cape Alexander with a possible walrus hunt in view. Arriving at Polaris Beach where the S.S. Polaris was lost in 1873, we swung over outside of Littleton Island to Eider Duck Island to open up a big cache of eider ducks' eggs placed there by Panikpak the preceding summer. The cache was readily found and supplied us with a hundred or more golden nuggets, as I like to think of them, a very nutritious and palatable food eaten just as they are in a frozen state, all perfectly fresh.

Had my eyes been closed when we rounded Sunrise Point, I should have known I was approaching Etah. The ever-present keen cutting wind was tumbling down the glacier from the ice cap and rushing over fiord ice as if the very devil were behind it. We ducked our heads low on the sledges, yelled to the dogs, and fought every inch of the way to the igloo three miles away. At times the dogs were stopped completely by a terrific blast and the sledges rolled nearly bottom up.

How different our reception from that of our last visit! Then there was a woman in the home. The igloo was warm, well-lighted, dry, and comparatively clean. Now no glowing lamp, no fur-covered bed, no heat; walls and roof were white with frost. With both Primus stoves at full blast and an Eskimo stove to add its mite, we could not raise the temperature to zero! To be comfortable we were soon in our sleeping-bags and asleep within a few minutes.

Monday the gale continued. That our cross-breed house, half Eskimo, half white, was not windproof was very evident from the bulging of the sealskin lining when a particularly heavy squall swept over our roof. We were glad to pack up in the morning and, with backs to the wind, gallop down the fiord and head south for the Crystal Palace Glacier.

As we started the descent on the south side, E-took'a-shoo stopped his dogs and called my attention to the open water extending to the horizon. It was useless to go on along the coast. Travel must be by ice foot and that uncertain, owing to precipitous snow banks. There were two things to do, go back to our ship or go over the ice cap to Nerky, thirty miles south. We concluded to go over rather than return.

As we traveled up the glacier and approached its junction with the ice cap, I took particular pains to confirm what I had observed several years before. For a short distance our progress was decidedly downhill, or, in other words, the glacier had a *backward slope*. This is apparently so contradictory to the general theory of glacier movement that it is of interest. This is also true of the upper end of the Morris Jesup Glacier. The weight and power exerted by the ice in its last rapid fall from the ice cap is sufficient to force that with which it comes in contact up a gentle slope for a short distance.

We plodded up, up, up, the summit of the white dome ever receding. Finally, black hills behind us dropped below the horizon, with the almost instant appearance of the crests of Northumberland and Herbert Islands. On the very summit we rested our dogs and ourselves

AK-KOM-MO-DING-WA

A NORTH GREENLAND ESKIMO

OFF TO THE SOUTH ON A VISIT TO THE ESKIMOS

A BAD CORNER TO GET BY — ONE OF THE DIFFICULTIES IN SPRING SLEDGING and crouched in the lee of the sledges, each man munching a biscuit.

The ride down the glacier is always a keen pleasure and may be more than exhilarating; a pleasure because the dogs are relieved of their heavy drag and, with tightly curled tails, erect ears, and lolling tongues, go bounding down the slope as if life were really worth living. Exciting because the sledge goes faster than the dogs, which, if not skillfully managed, inevitably results in a tangled mess of dogs, traces, men, and sledge, the last on its side or bottom up. It happened that the wind-packed snow was of just the right hardness to serve as a slight drag on the sledges, enabling the dogs to keep ahead of us. Away we went skimming down onto the back of a magnificent glacier, known as the Clements Markham, strikingly picturesque on a sunlit day, flanked by black precipitous cliffs splashed with glittering white hanging glacierettes.

Our immediate objective was a snow house at Peteravik; but to my surprise when we reached sea ice, the Eskimos wished to keep right on for Nerky, although we had already been on the road twelve hours and were covered with cold sweat from our laborious ascent of the ice cap.

In contrast to the conditions of a snow house, which we proposed to build, were the warm, well-lighted, and comfortable winter rock homes of the natives, which we all visualized as the tired dogs picked up the trail leading south. A little after midnight we drove into the sleeping village at the end of the fifty miles. The children, the sentinels of every village, rushed for the doors of the igloos to notify fathers and mothers that the white men were coming — a big event.

One's arrival in a village is always attended by a feeling of embarrassment. Invitations or requests to make one of the igloos your home during your visit are never forthcoming even from your best friends. You might stand before the houses for a week, a native would never invite you in. And there one stands looking foolish and undecided as to just what to do. You are cordially welcomed and wanted in every home, but you must decide which house, which family you prefer, and thereby which to honor. Soliciting for the honor is not considered good form among these primitive people.

Ah′pel-lah, a very successful hunter in the tribe, and therefore possessing a full pantry, always entertained all visitors in the largest igloo I have ever seen. His wife, Ah′tee-ta, was a noted beauty, for the hand of whom several Eskimos had contended and one man was shot. I had known them both for many years. In fact, they were a part of my expedition of 1913–17. Naturally they expected to entertain an old friend and were both busy putting a last touch of tidiness in their living quarters.

But I unexpectedly chose the small igloo of Metik (eider duck), much to the consternation of Mrs. Eider Duck, who, when I entered, sat on the edge of the bed platform, red in the face and very much out of breath with her exertions in kicking bones, scraps of meat, dog harnesses, and pups under the bed. No hosts could have been kinder during our stay. Ahl′na-ghi′to, the wife, dried our kamiks (boots), rubbed them soft with the bone-scraper and stretched the soles with her pretty white teeth; then padded them with dried grass. Each morning they were standing within reach of our sleeping-bags ready for the day. She repaired the rents in our skin clothing, using the strong native thread from the back of the narwhal, one thing for which the white man can never bring a substitute, as it is far superior to manufactured thread. With us they shared their walrus and seal and Arctic hare and with them we shared our tea, coffee, sugar, milk, and biscuit. Messengers were busy between the igloos notifying all as to the exact minute when meals were served. The children were faithful in their duties. Our igloo was always bulging when Mrs. Metik poured the tea and I served the biscuit;

while the man of the house carved the walrus joint reposing amid the débris of the igloo floor. The meat always lies there within reach of all to serve as a buffet lunch at any and all hours of the day.

It is surprising how much raw meat in a frozen state one can eat. A frozen walrus liver with tidbits of raw seal fat as sauce is really a delicacy, and is ushered in through the hole in the rock floor with as much pomp and ceremony as the plump, brown roast chicken which comes from the home kitchen.

Narwhal and white whale are in fact more palatable uncooked than cooked, the raw skin being especially prized: A square foot makes a suitable portion for a man of average appetite. The Eskimos' perfect teeth, set strongly in square, heavily muscled, wide jaws, crunch this tough, grizzly substance almost as easily as an American boy eats a banana and certainly with as much pleasure.

Parts of animals, which the more refined taste of civilization rejects as waste, are all used, even eyeballs and entrails. It is a weird sight to see an Eskimo child with three eyes, two of her own, and one peering at you from between parted lips. This is the lollypop of the Far North and is generally the child's prerogative.

Meat is their sole diet and has been for at least a thousand years. When they are starving, I have known them to eat rockweed and kelp; and in the spring I have seen the Eskimo children eating the root of the willow and the blossoms of the purple saxifrage; but the amount is insignificant and would not total more than a few ounces of vegetable food in a year. In view of our modern and scientific ideas as to what constitutes a balanced ration, such facts concerning a strong and vigorous race come with a shock, but are nevertheless interesting.

In connection with the above I must state that the Eskimos of the Smith Sound tribe are not long-lived, although practically free from sickness while they do live.

A girl married at fourteen and even twelve years ages rapidly. A man at sixty has nearly run his race. A man at seventy-five and eighty is almost unknown. The tea, coffee, sugar, biscuit, and tobacco obtained at the trading station, coupled with the inevitable diseases of our home land will not, I fear, lengthen their days or add one whit of happiness.

And here for the first time I was initiated into the mysteries of the bone game as played in the igloos during the dark period. The 'bone' is the ulna of a bearded seal, with ends so perforated that by swinging it upon a string it is pierced by a sharp bone joint held in the hand. Some of the holes are difficult of entrance and require considerable dexterity, which is accomplished only by long practice. There are six different ways of piercing the bone and each must be accomplished twenty times. Each tally signifies a dog until one has a full team; henceforth each tally is a stage of the journey from Etah to Cape York, two hundred and fifty miles by sledge attended with many mishaps. Surprising to relate, the object of the long journey is to obtain a new set of teeth! I can readily believe that such a prize is the most valuable possession of a meat-eating race. The instant the successful contestant arrives at his destination, the others slide one hand quickly over the other, signifying that they have all slipped from the ice foot into the sea.

While at Nerky, one of my Eskimos, Kah-ko-tchee'a, suggested that we drive up to his summer tenting place near the glacier and uncover a big cache of dovekies or little auks, made by him the preceding summer. To my astonishment he ascended a hill at least a thousand feet in height, higher than I ever knew these birds to nest. To our disappointment every bird was gone, stolen by foxes, a very common experience with a cache carelessly built.

On Friday evening there was great excitement in the little village. The new missionary-teacher could be seen approaching over the ice from the south. He was recognized by his dogs, as all men are in the North, at a distance. Curiosity over the personality of the 'new minister' is as rife in the North as in the South. All rushed to the ice foot to greet him and his traveling companion, young 'Harrigan,' a recent convert.

Jens John F. Olsen is a native of Holstensberg, South Greenland, of mixed Danish-Eskimo origin. He received his education at the University at Godthaab and at Copenhagen, Denmark. I am heartily in sympathy with his noble purpose to Christianize the Smith Sound native, although fully realizing that they are one of the happiest people in the world. But such a state of happiness cannot be guaranteed in view of the annual visits of traders, explorers, and whalemen. The welfare of any savage race to-day depends upon its knowledge of the practices, the purposes, the evils, and the *diseases of the outside world.* Ignorant of these, the result is extinction before the march of civilization. If history teaches us anything, it is this.

I have known these people now for nineteen years; and have studied their customs, their language, and their religion. The change noticeable to-day from certain evil practices is due entirely to the efforts of teachers and missionaries during the last nine years. Let the good work go on!

Mr. Olsen was on his way to our winter quarters to baptize one of the two babies born during the winter. I therefore decided not to await E-took'a-shoo, who had gone south for dogs, but to accompany the two guests to the ship. Reports had reached us that new ice had formed in Sonntag Bay, and that we might possibly proceed along the coast, thus avoiding the journey over the ice cap. Beyond Cape Chalon open water compelled us to take to the ice foot, as we feared. Rounding a rocky bluff we came upon a typical Eskimo encampment, one which man might have seen five and ten thousand years ago. It was a long step backwards to dwell for a day with primitive man. In front of a hole in a snow bank sat three Eskimo boys hacking at the frozen flipper of a walrus. For nourishment they needed no fire; for shelter, nothing portable. There was a snow bank at every turn. Nothing could be more primitive than a hole in the snow and a piece of raw meat!

Buried in the ice foot to protect them from loose dogs were the bodies of four walrus, which were cut out as needed. The ice covering protected the meat also from the depredations of foxes, the only animal enemy of the native. In fact, as we stood chatting, two blue foxes were seen running along the ice foot toward the camp. They were coming to supper. The boys hastily grabbed their rifles and crouched behind a boulder some fifty yards north. Two shots rang out. One fox went leaping back along the ice foot and the other ascended an almost vertical snow slope with such rapidity that I could hardly believe my eyes.

An Arctic hare and an Arctic fox must have some exciting races among the big white hills of the North, typical of the struggle for existence in the animal world where the life of one is the death of the other.

A good cache of meat is always a potent factor in deciding a camp. Dogs must be fed and cared for; they are too valuable as an aid in traveling to be neglected; therefore, we should remain here for the night and fill them up for their fifty-mile trip to the ship. Rather than burrow into a snow bank we decided to build an igloo out of snow blocks. Such a house is stronger and warmer and more resistant to the heat from the sledge stoves, in that the snow is selected and is of the same consistency throughout; whereas a snow bank is generally compounded of strata of varying degrees of hardness, depending upon the force and the varying direction of the wind at the time of its formation. The average-sized snow house, used on the trail in lieu of a tent, is about eight feet in diameter and eight feet in height, constructed of about fifty snow blocks, some two feet long, eighteen inches wide, and six to eight inches thick. Contrary to the general belief and statements in many books, it is not built wall on wall, but spirally, ever winding higher from right to left, counter-clockwise, each block supported and held in place by the block at its right.

The Eskimo builds an arch with apparently no support! It is truly marvelous how the blocks of the dome remain in place until the last block or key locks the structure.

Common sense will teach us that a snow house can never be really warm; that is, not for any length of time without melting down. Rather than continue building new houses, one is careful of the old. But if we are to occupy it for one night only, heat it up, what do we care! Although melting, it will not drip for some time. The big snow blocks are huge blotters and absorb to the point of saturation, then drip — drip — drip, wetting everything, the seal and caribou skins spread flat on the snow bed, our sleeping-bags, and the fur clothes which we are wearing. Later on when lamps are out, we know that all will be frozen stiff. There is one way, and that but temporary, to prevent this — grasp a handful of snow and apply it to the dripping spot — it sticks, absorbs, and will continue to do so until supersaturated, when — drip — drip again. If we are to remain in a snow house for any length of time, as I have done for a period of six weeks, we resort to the melt-prevention method of lining it with a canvas tent, which, because of the intervening air space, results in a very comfortable little home.

When the rumor was spread abroad that we were boiling eider ducks' eggs, the cavemen immediately abandoned their 'dugout' and crowded into our new home. They had not enjoyed eggs since the preceding summer. Fortunately we still had enough to satisfy all.

Our way north was still uncertain, as the dark ice of Sonntag Bay indicated. One cold night, however, would make it sufficiently thick for us to pass.

In the morning we again traveled by ice foot, encountering a dangerous slope on which Olsen and 'Harrigan' might easily have lost their dogs and sledges. The minister here proved to me that he was no tenderfoot. He managed his dogs and sledge as skillfully as a native, and in a manner which would command the respect of his parishioners. Such a knowledge of the technique of dog-driving should increase his influence tremendously in the tribe. When the Man of God or any 'Kab-loo-nak' (white man) can rough it with the best, his status is determined.

At the Sonntag Glacier we gingerly took the sea ice for a short distance, finding it of sufficient strength to furnish a bridge to Sulwuddy. From here it was a rapid run along the ice foot to the Cape Alexander Glacier. At times this confronts the traveler with an almost precipitous wall, which is scaled only by resorting to ropes. Upon one occasion, when our sledges were heavily loaded with walrus meat, we were forced to use block and tackle.

A long gentle slope was our good fortune upon this occasion. At the foot of the Crystal Palace Glacier we stopped and made coffee, a popular South Greenland custom on the trail. The bread furnished by the missionary and made by his Holstenborg Eskimo wife was delicious, being novel both in taste and appearance.

Cape Kendrick was fairly criss-crossed with hare tracks, a temptation to delay for an hour or so and hunt. We kept on, however, intending to drive right through to Refuge Harbor. But Etah gave us its usual welcome, wind and drift, which decided our course straight for the old igloo in Foulke Fiord.

A face appeared over the ice foot in front of the door. Old Ak-kom′mo-ding′wa was in camp on his way south from the ship. He declared he had to leave Refuge Harbor to save his dogs! The boys on board the Bowdoin, eager to learn the art of dog-driving, had borrowed his dogs each day and invariably returned with broken whipstocks, broken sledge, and tangled traces.

A fast run of four hours the next morning took us to the ship. There were times on our trip when we suspected that it was fairly cold. Upon our arrival, much to our surprise, we learned that the temperature had been forty degrees below zero during our absence. To be comfortable it is sometimes best not to have a thermometer.

The next day seven men, women, and children arrived from Nerky. They had followed rapidly behind us to witness the baptism of the baby, a novel and mystic form of entertainment. To us it was fully as interesting, the ceremony taking place in the little forecastle of the Bowdoin. It was difficult to associate the clergyman in white cassock and ruff, washed and shaved face, combed and parted hair, with my fur-clad, shouting and working driver of the trail. The Eskimos sat as if paralyzed and remained so for some time. Some of these Eskimos had been baptized, others wanted to be, and others wondered what it was all about, but all were busy with their thoughts, except the most Northern little boy in the world, born in the middle of the big night within twelve degrees of the Pole.

CHAPTER X

SOUTH TO THE ESKIMO VILLAGE

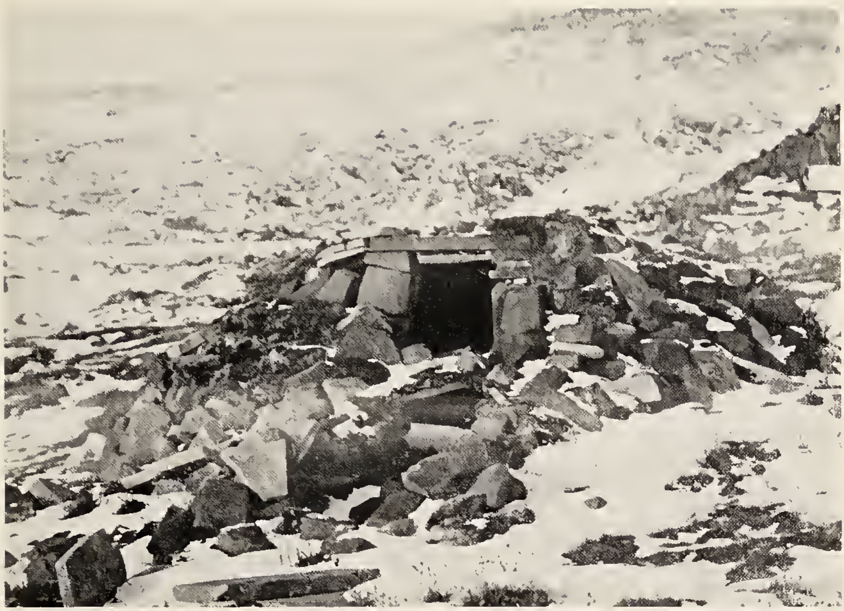
April 6th, the anniversary of the discovery of the North Pole, which marked the culmination of a three-hundred-year struggle by England, Norway, Sweden, Austria, Italy, and America! Surely Peary should have a niche in the Hall of Fame after his gallant work of eighteen years. I know of no more inspiring page in history for Youth than that on which we read of the determination and singleness of purpose of this American who looked out over a chaotic mass of sea ice where others had failed and said, 'I can.'

Worn to the bone by starvation, crippled and maimed by amputation, baffled and blocked by unforeseen contingencies, his dogs and Eskimos dying, his staunch ship a wreck, he held his course northward, and won! His own words were uttered with all sincerity: 'The true explorer does his work not with any hopes of reward or honor, but because the thing which he has set himself to do is a part of his being and must be done for the sake of its accomplishment.'

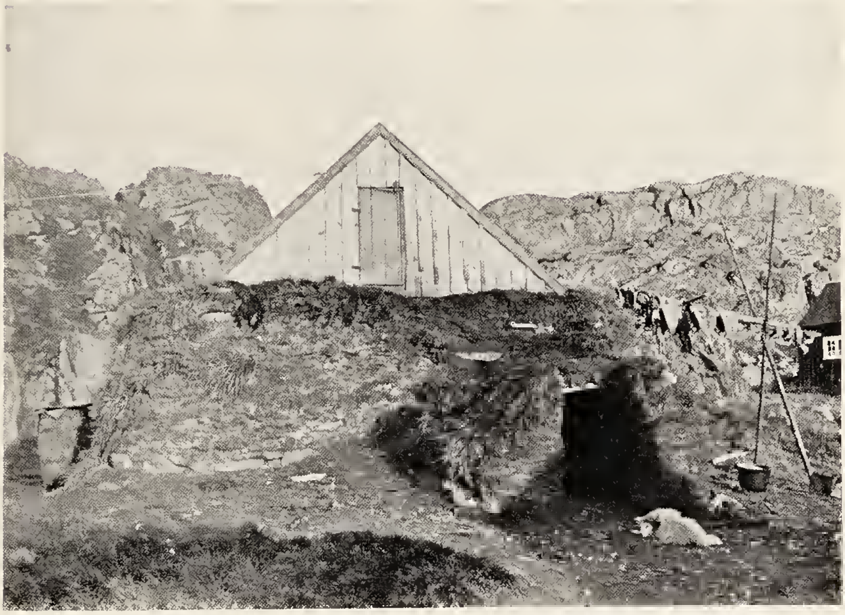
We raised the flag on the Bowdoin in his honor, and it snapped at our truck as if signaling to the phantom Roosevelt steaming by on her way northward.

On April 17th we were away again for the Eskimo village of Nerky to get a series of motion pictures of Eskimo life at one of their villages. E-took′a-shoo, Kah-ko-tchee′a and I, each driving a sledge, were accompanied by Kood-look′to, Ahl′na-doo′a and baby, and Nup′sa, a half-breed lad of eighteen, all visitors at our ship and now headed toward home.

Arriving at the igloo at Etah I deplored the fact that we had no meat for our dogs. To my astonishment the Eski-



AN IG-LOO, OR WINTER HOME, IN NORTH GREENLAND



A TYPICAL SOUTH GREENLAND ESKIMO HOUSE
Wood within, sod without

THE MOST NORTHERN FAMILY IN THE WORLD, ETAH

LUNCHEON ON BOARD THE BOWDOIN

mos proceeded to chop it out of the floor! What I thought to be frozen mounds of dirt proved to be walrus meat in cache within reach of the bed! The floor serves as the ice chest, an economy of space!

On Friday, April 18th, we started in high hopes of a journey right through to Nerky, distant fifty miles. We fairly swept down the coast and over the Crystal Palace and Cape Alexander Glaciers. I use the word 'swept' advisedly, for I certainly 'brushed the surface' the latter part of my journey. The Cape Alexander Glacier was as hard as flint; it usually is because of terrific winds. In attempting a descent here, the Eskimos generally check their sledges by a loop of sealskin line beneath the runners, which acts as a drag. I had no line, and was foolishly confident that I could reach the bottom in safety by controlling the sledge with the upstanders, not realizing that as yet I was not thoroughly acquainted with my new team of dogs.

All went well until within a hundred yards of the finish on the ice foot, when feeling now that nothing could happen, I jumped upon the sledge. The dogs were off with long leaps for the bottom. Kah-ko-tchee'a, who was standing on the ice foot, sensed what would happen. He seized his whip and jumped out into the trail in front of the dogs to stop them if possible in their mad race. When he realized at what speed we were coming down upon him, he ran from the road. The dogs turned slightly to the left almost at the very bottom, which was enough to swing the sledge upon the glassy surface as one would swing a cat by the tail. I might have gone completely around the circle, had not a projecting knob of ice interfered. The Eskimos disagreed as to how many times the sledge rolled over, but, possibly to belittle my work as a dog-driver, declared that I turned four somersaults! I distinctly remember doing so twice, each time suffering a resounding whack on the back of my head.

The sledge was a wreck; one side was split in several places. A white man would have despaired of ever repairing it. When the Eskimos were assured that I had suffered no injury, they held a kind of *post mortem* around the sledge. Yes, they could repair it all right! And immediately they set to work to prove their word.

The Smith Sound native always repairs by lashing, at which practice he is most ingenious and very skillful. To lash, holes must be bored. We had no drill. A white man would have worried one through the inch and a quarter oak with the point of a knife, consuming possibly an hour on each of the dozen or more holes. The Eskimos shot them through with their rifles! To make a successful repair, a clamp must be applied to draw the wood tightly together. To accomplish this they made a twister out of their walrus line, using a hatchet handle.

While the men were busily engaged in doing this, Ahl′-na-doo′a was making coffee and serving biscuit, thus helping the time to pass quickly. We were soon on the road again and our dogs galloping rapidly along the ice foot.

When rounding a point within a few miles of Sulwuddy, we met Ark′li-o, wife and little girl, returning north! They had left the ship for home a week before. Blocked by open water! Impossible to get south! We were in a quandary what to do. Only one thing — go back and go over the ice cap, difficult as it was. Arriving at the base of the glacier, we were confronted by a strong wind and drift and decided to go into camp to await better weather. For the first time during the year we pitched the tent; a little early, perhaps; but the temptation to hasten the season could not be resisted.

On the 19th, the weather seemed favorable enough for us to attempt the glacier, but snow and wind increased with altitude and with distance until finally we were in a perfect smother of drift. I thought it imperative to camp.

I wondered how in the world ten of us could all get into my small tent. Building-snow was not available. The natives were reluctant to go on, fearing a snow-covered crevasse, and being also uncertain of the direction. I suggested that we follow our back trail to Cape Alexander, and from there, if weather permitted, reach a big cache of meat at the Crystal Palace Cliffs. This we decided to do, but when we arrived on the back of the glacier, the storm was so bad that the natives thought it advisable to return to the igloo for shelter. Tent life was over for a time. We hastily set to work cutting snow blocks for another igloo, as one would have been too crowded.

The next day, the 20th, was a continuation of Saturday, with snow and wind from the southward. Although we as yet had plenty of food for ourselves, our dogs were without any. E-took′a-shoo and Kood-look′to determined to drive up over the glacier and back to the Crystal Palace Cliffs for walrus meat; Kah-ko-tchee′a, Ark′li-o, and Nup′sa would drive south to pick up a small cache there.

At 2 A.M. Monday, Kah-ko-tchee′a returned with a hare, which we promptly ate. At 3 A.M. Nup′sa and Ark′li-o arrived with a few remnants of walrus meat. At 7 A.M. E-took′a-shoo and Kood-look′to drove down the glacier with one small piece of meat only, reporting the snow to be actually over their sledges north of Cape Alexander. The prospect for a prolonged stay at this spot was not pleasing; bad north, bad south, and worse over the top. Time to cheer up! I invited them all to tea in my tent, which we had again pitched, fearing a collapse of the walls of the snow house. Besides, I wanted to test the capacity of the seven by seven tent, not knowing when we might be called upon to use it. After the ten were all in and uncomfortably seated, a picture of the outside would have been of interest. One could never have guessed what it covered or what shape the tent was supposed to be. The profiles at different angles were almost alarming, but certainly very interesting.

About noon the wind increased. With so much snow on the ice cap we knew what to expect — a blinding drift, and possibly a wearing away of the snow house inhabited by the women and children. We decided to move at once to a rock cave one mile south. Everything was thrown onto the sledges in a haphazard manner, and away we went before the wind for a better shelter.

The cave was readily found and its entrance walled up with snow blocks. With the long black-haired, fur-clad Eskimos sitting in the semi-darkness beneath the shelving rock roof chanting their primitive music, possibly the oldest in the world to-day, it needed but a slight touch of the imagination to place one far back in the early history of what is now called man.

In the evening the men suddenly decided that they wanted some hare meat. Doubling up, two men on a sledge, they drove away to the southern slope of Cape Alexander where no Eskimo had hunted for a long time. They returned at 4 A.M. with ten hares. The pot boiled long and hard that morning and again at noon. My Eskimos were filled up. 'Why worry about the dogs? They are tough and can go ten days and longer if necessary,' declared Nup′sa.

A heavy fog all day Thursday was not encouraging. The dogs howled and fought all night. Several had bitten off their traces and were running loose picking up stray bits of line and skin about the camp. It was clearly evident that we must return north at once or make an attempt to get over the ice cap south. Above our heads it was as thick as a dungeon. Could we find our way over? To our astonishment we drove up through the low-lying fog bank into the bright sunshine, out of the deep snow and onto a hard sledging surface. The Arctic is as full of pleasant surprises as it is of disappointments.

At ten o'clock the next morning we drove into Nerky following a glorious ride down the Clements Markham Glacier. Rather than sleep in the congested rock igloos I pitched my tent in the village — bachelor quarters. But before night it snowed so heavily and drifted so badly that I was glad to sleep with the Eskimos in spite of the possibility — and probability — of getting body lice.

Saturday was a miserable day; a wet snow fell continuously. Three more sledges arrived from the south during the night, adding to the number of persons in bed and to our total of howling dogs, of which there were now one hundred and twenty in all, not counting about twenty pups sleeping in the igloo entrance and fighting about the door. But sledging so wearies the body and is so conducive to sound sleep that they might have fought under or even on our beds and yet not have disturbed us.

When fourteen hours had passed and three of our traveling companions, Ark′li-o, his wife, and his little girl, had not arrived, I was worried. Upon reaching sea ice the day before, I had looked back and could see the black dot descending the glacier some two miles away and knew that they were all right at that time. Yet there were many crevasses and wide cracks that might cause trouble. E-took′a-shoo, brother of the woman, laughed at my fears and declared that the three were all right and would soon arrive. To my relief they were at the door the next morning, all smiling and looking thoroughly rested. To my inquiry, 'Where in the world have you been?' they replied, 'Sleeping on our sledge at the foot of the glacier.' Tired with the long walk they decided that it was time to go to bed, and to bed they went, simply lying down on their sledge under a caribou skin! Shortly after this it began to snow and continued to do so all night, and all the next day, but they slept on like tired children, heedless of their white and ever-thickening covering. What a picture of Northern life!

Would it ever stop snowing! All day Sunday it continued until it was more than two feet deep all over the village, burying sledges and dogs. With very little meat on hand, the Eskimos wondered what to do and where to go to get any. A family of twenty-seven people and a hundred and twenty dogs requires considerable food.

That the Eskimos held a Sunday service was of extreme interest to me. That nearly all washed their hands and faces was even of more interest. Once a week is quite an improvement over not at all. Kah-ko-tchee′a, clad in a clean white jumper, read the Eskimo Bible to a very attentive audience. The gods of the hills and the sea, and their great evil spirit, Tornasuk, are being put back in their place among the Dark Ages. They were all the better for their simple service.

Tuesday gave promise of better weather. The storm had abated. The wind veered to the north. Blue patches broke through the heavy clouds. By night the wind blew with such violence that I feared my tent would go into the air in spite of its six guy-lines. With kamiks (sealskin boots) and mittens within reach, I slid deep into my soft warm caribou sleeping-bag and dozed off to sleep listening to the roar of wind and pelting drift. No one who has not experienced it can possibly imagine the downright comfort of such a situation. The thin tent is jumping and slatting and tugging like a thing alive; dry pellets of snow are beating against the fabric like hail against a window pane; the wind is now howling, humming, wailing through the guy-ropes. Outside, a smother of drift, a face-cutting wind; inside, protected, warm, a bit sleepy, a very comfortable you.

In the morning I was awakened with a ‘Now! I-o!’ — a woman’s voice. She stood in my tent in snow a foot deep and had come to shovel me out with the shoulder blade of a whale. I hardly knew whether to be grateful or ashamed at receiving such a service, a novel experience to be shoveled out of bed by a woman! Before I had time to crawl out and dress, she brought me a pot of hot coffee! Great Scott, coffee in bed in the morning! I confess, reluctantly, that the coffee came every morning during my stay and was always accepted with pleasure.

At last clear weather arrived and with it four sledges from the North. The drivers on their way north had encountered the same open water which blocked our journey south. They had returned, and in ascending the glacier had detected our sledge tracks leading south. My sledge tracks, narrower than those of the Eskimos, were recognized. Knowing that if they traveled north with us they would be served tea, coffee, and biscuit, they turned back at once and followed our trail to Nerky.

May 1st, 'May Day' as we knew it in old Provincetown, was one of the best. The Eskimos took advantage of the good weather, and all with sledge and dogs drove away to the edge of the sea ice for seals. Kah-ko-tchee′a returned in a short time with two big fat ones on his sledge. He was followed by E-took′a-shoo, who had one. All others returned empty-handed. I wondered if this was because my men had new rifles; although I realized that in selecting them as our assistants we were employing two of the best men in the tribe.

When the dogs smelled fresh seal's blood there was great excitement in camp, a veritable pandemonium with all yelping and tugging at their traces. Two of the teams broke their fastenings and rushed pell-mell upon the men cutting up the meat. The women and children seized sticks, stones, pieces of boards, anything at hand, and drove them back to their hitching-straps. Feeding means fighting in every team. For when the dogs see their master coming with a boxful of meat, the stronger grab the weaker in their mouths and try their best to do as much damage as possible before the food arrives. And when the meat is thrown among the dogs there is one grand mix-up.

The last act generally ends with the Eskimo violently throwing the food box at some particularly pugnacious animal and walking away muttering to himself.

The tenderer parts of the seals, the filets, were reserved for a banquet in the open. The men had finished their labors and rested on the sledges smoking their pipes. The women kindled fires with bits of wood and seal fat in front of their igloos and filled their cooking-pots to the cover with hearts, livers, tenderloin, and ribs. They were still eating when I closed the doors of my tent for the night.

Friday was such a perfect day that we concluded to start for home in the afternoon, thus taking advantage of the night freezing for traveling. I had been gradually adding to my team by purchasing dogs from the Eskimos. As I gathered up the traces of the fifteen, strange to me and to each other, I anticipated some exciting moments before reaching the ship, sixty-five miles north. My troubles began at the very start. One fine looking dog, which I had obtained from Kood-look′to, knew that he was going in the wrong direction and turned back toward home, persisting in doing so repeatedly for several hours and exerting his strength in vain against the other fourteen. Not until he had been ignominiously dragged for hundreds of yards did he realize that his comfortable position was with his team mates.

At Cape Saumarez a white dog snapped his trace and bolted back along the trail. I jumped to the top of my sledge, waved both arms, and yelled to Poo′ad-loo′na in the rear to catch him. I knew what would happen; it always does. Any stray dog, one without friends, is attacked by every team. While the fight was in progress the Eskimo might capture him. Within a few minutes he arrived with the dog tied to the end of his whip.

The glacier and the ice cap as well were in perfect condition for sledging, smoothed and hardened by the terrific wind of four days before. Up and over we went at a rapid pace, and glided merrily down the northern side to be confronted by an 'Open Polar Sea!' Water everywhere as far as the eye could reach. The Eskimos deliberated for some time as to just what to do, for only at certain places can one descend from the ice cap safely. We decided upon a narrow ravine leading down into a bay north of Cape Kendrick. Just where it was no one seemed to know. I had been up the pass once only and then in the night. Two of the five Eskimos had been down years ago.

We crossed and criss-crossed, plunged and climbed, drove into several *culs-de-sac*, crossed bare ground studded with jagged rocks until I was all out of patience with Eskimos who could not find their way in their own home. Finally when Kah-ko-tchee′a did discover the way leading to the river-bed, I forgave them all; it was up a hill! To go up when we were going down was a new experience!

Of all the descents in my thousands of miles of sledging I have never encountered anything like that ravine. There was hardly a cubic foot of snow in it. Ice and boulders from top to bottom! Even the Eskimos bitterly complained and marveled at its condition. There was one drop of fifteen feet of solid ice, a frozen waterfall. Ropes were used here. A sledge alone with no dogs to control might have resulted in a fairly satisfactory trip, but, with fifteen dogs pulling like mad and ambitious to break all records and everything attached to them, the descent was a nightmare. We sat upon our sledges on the sea ice, red in the face, covered with sweat, and out of breath, and felt as if we had descended from an upper Inferno. The Eskimos will avoid that pass for years to come!

Enough for one day. We went into camp a mile beyond at five in the morning. The tent pitched, we cheered up a bit. With the glasses the boys counted ten Arctic hares feeding on the hills northeast. Within a few hours they were back with eleven, food for ourselves and skins for stockings.

Since there was no dog food at the ship, we planned to load up our sledges from a cache at Cape Kendrick; therefore we could not get away until Sunday morning, May 4th. The promise of a fast run to Refuge Harbor, indicated by the condition of the sea ice, was not fulfilled. Once across the mouth of Etah Harbor, we were compelled to follow the ice foot clear to Polaris Beach north of Littleton Island.

As we crossed Sewall Harbor I could see two black dots on the ptarmigan grounds north, and knew that Goddard and Bromfield were on their regular Sunday hunt for birds. They hurried down to the ice foot to meet us and were plainly relieved from considerable anxiety over our long absence. We were now overdue a week; and knowing that we had planned to go out on the sea ice off Peteravik for walrus, they had imagined us drifting south with the pack.

A short run brought us to the Bowdoin, where all rushed out to meet us. As I was the first to arrive, I told the two Eskimo women in jest that their husbands had gone to Umanak and would not be back for a week or so. News of their death could not have affected them more deeply. They dropped their heads and walked slowly toward the shore. I called to them and endeavored to correct my serious mistake; unmoved, they walked on with bowed heads. I mention this in refutation of the statement made by certain writers that there is really no love between Eskimo man and wife. A happy reunion followed a half-hour later when E-took′a-shoo and Kah-ko-tchee′a drove into the harbor.

The most important bit of news to greet me upon my arrival was that the Bowdoin was leaking badly. It seemed to be the main topic of conversation. A few of the boys questioned a safe arrival home. One quietly suggested that it might be well not to carry too much sail on the homeward passage considering the fact that the Bowdoin had been terribly strained by being frozen in the ice during the last winter!

Leakage in the spring always alarms a captain on his first trip to the Arctic. He learns later with much relief that most of it comes from the *inside* of his ship and results from the melting of the winter's condensation next to the outside skin. The 'leak' didn't worry me at all. As to strain in a quiet harbor, there was hardly enough to rub her paint. In the history of Arctic exploration, no ship has ever been crushed in harbor, for the simple reason that there is absolutely no pressure. The ship is embedded in a sheet of ice, about seven feet in thickness, which gently rises and falls with the tide.

CHAPTER XI

THE TABLET AT CAPE SABINE

It was now getting so late in the season that I planned to sledge the tablet to Cape Sabine at once and put it in place. On May 6th, we left the ship at noon with a party of nine men and six sledges, consisting of Robinson, Goddard, Jaynes, E-took′a-shoo, Kah-ko-tchee′a, Koo-e-tig′e-to, Poo′ad-loo′na, Noo′ka-ping′wa, and myself. Goddard was to do magnetic work at Camp Clay. Jaynes, my engineer, a skillful mechanic, was to superintend the placing of the tablet, which was to be fastened to the face of the boulder with expansion bolts and heads covered with ornamental brass caps or knobs.

For the first four or five miles the going was wretched, but it improved as we neared the center of the Sound. Here we ran into a thick snowstorm and were somewhat puzzled as to the most direct route to Cape Sabine. We had no compass, but could now and then discern a faint sun, the bearing of which, checked up by a watch, indicated roughly our course northwest. With very little food on our sledges for seven men, we could not face the possibility of a two or three days' storm camped in the middle of Smith Sound; therefore we continued on for twelve hours and were fortunate in making a landfall just north of Brevoort Island, the very spot for which we were headed.

The air was filled with snow, and visibility was so poor when we reached the vicinity of Greely's camp that I decided to camp amid the rough ice bordering the shore and in the morning select the most practicable way to the land. With the bronze tablet within a few hundred yards of the end of its three-thousand-mile journey, I was reluctant to take any chances whereby it might be injured. I had carried it on my own sledge and had been extremely careful to avoid every obstruction.

The next day was a wonder, bright sunlight with very little wind, ideal for our work as planned. Within an hour or so following breakfast we were standing by the rock walls of the camp. Jaynes agreed with me that the boulder at the south end of Cross Lake would make an ideal mount, and thither we sledged the tablet. This boulder is distant from the house one hundred and seventy-five yards and is between Cross Lake and Cemetery Ridge.

Robinson and Jaynes began work at once drilling holes for the bolts. Goddard pitched his magnetic tent on Cemetery Ridge and began a series of observations. Our Eskimos drove out into Buchanan Bay for seals for our dogs, but soon returned reporting a very strong wind at the end of the Cape.

On Thursday morning the tablet was in place and the work done. One object of our expedition had been accomplished. We draped the tablet and face of the boulder with a large American flag and took a series of photographs of both Eskimos and my own party standing beside it. The men who died there had not been forgotten. There the tablet stands and all who go there may read:

> To the Memory of the Dead Who Under Lieutenant A. W. Greely Here Gave their Lives To Insure The Final and Complete Success of the First Scientific Co-operation of the United States with other Nations,
> 1881–1884.
>
> Erected by the National Geographic Society, 1923.

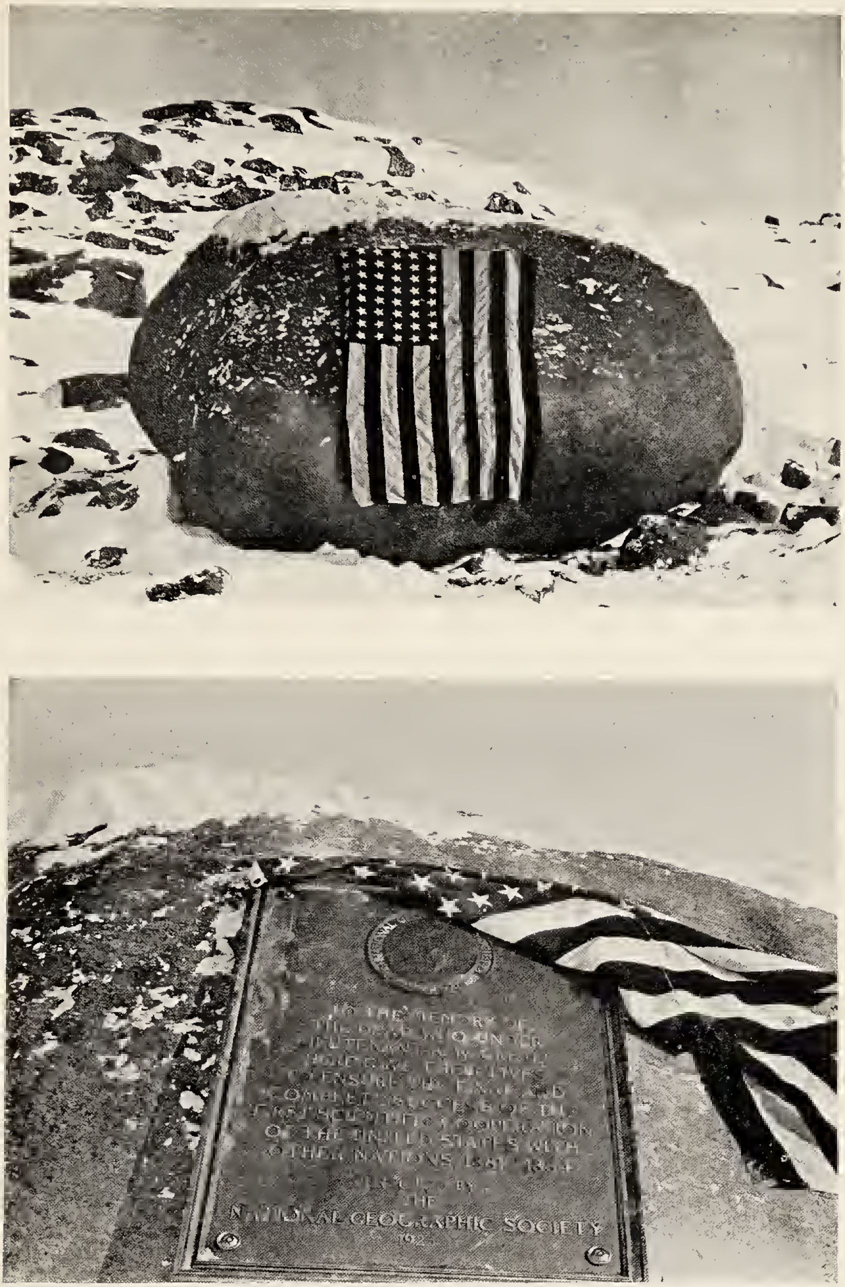
Following Goddard's noon meridian observation for latitude, we started back for the ship by way of Brevoort Island, since I wished my men to visit the Nares cairn of 1876 and Payer Harbor where Peary spent the winters of 1900–02. It was from this cairn on the summit of Brevoort Island that Commander W. S. Schley, U.S.N., first obtained tidings of Greely and his men. Brevoort shares the distinction with Stalknecht, a low-lying island guarding the southern side of Payer Harbor. From the summit of this island Ensign Harlow was seen signaling, 'Have found Greely's records; send five men.' What excitement in the ward-room of the Thetis as Schley and his officers gathered about the records! And what a feeling of thankfulness over the last statement.

> My party is now permanently encamped on the west side of a small neck of land which connects the wreck cache cove or bay and the one to its west. Distant about equally from Cape Sabine and Cocked Hat Island. All well.
>
> A. W. Greely

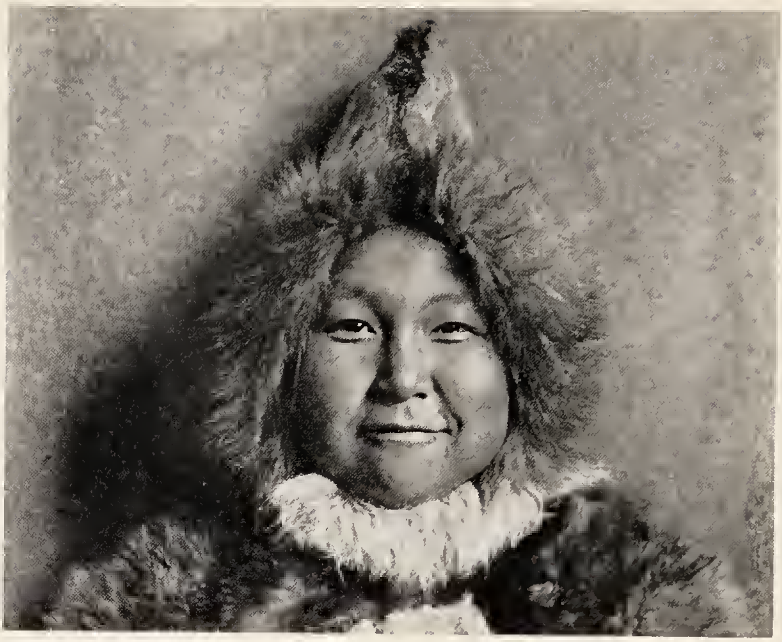
But what despair when they noticed the date, 'Sunday, October 21, 1883!' Eight months had passed since the writing of the record, and at that time only forty days' food remained. The conclusion was inevitable that all must have perished.

Had one Etah Eskimo appeared in camp that spring, all remaining would have been saved. Had Greely and his men crossed to Littleton Island in the fall, I believe they would have been well cared for by the Smith Sound Eskimo. Had our Government granted permission to Chief Engineer Melville to proceed north in the fall of 1883 in his attempt to rescue these deserted men, I believe he would have succeeded. Had the memorandum or 'Inclosure 4' of Lieutenant Louis V. Caziarc been a part of Garlington's orders in 1883, all would have ended differently. It is a simple thing, however, following such a disaster, to say what might have been done; and it is not my purpose to criticize Greely, Lieutenant Garlington, Captain Pike and his crew, or the United States Government.

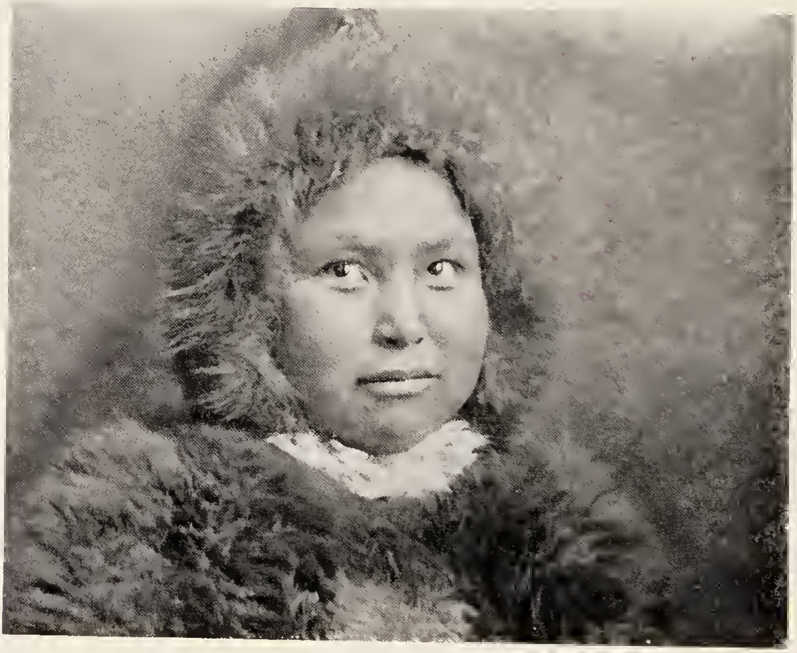
The pressure ridges at Cape Sabine, and especially in the vicinity of Brevoort Island, were of the greatest interest to me as showing the tremendous power exerted by



BRONZE TABLET ERECTED BY THE NATIONAL GEOGRAPHIC SOCIETY IN MEMORY OF THE GREELY PARTY



AH-WEE-AH
A full-blooded Eskimo girl of the Smith Sound tribe



AH-MOW-NEDDY
A North Greenland girl

the ice fields being squeezed out of Kane Basin by the Arctic current issuing from the Polar Sea via Kennedy and Robeson Channels. One can, therefore, understand how the Proteus and Polaris were crushed, why the Alert and Discovery were squeezed, and the Roosevelt came south a wreck. Just how the old schooner Advance, without power, ever succeeded in reaching Rensselaer Harbor is a mystery. Some of my men declared that Kane and his men dragged her along the ice foot. Kane's wonderful narrative can be easily criticized, but his courage and persistency in the face of difficulties stand.

Our trip back across the Sound was accomplished without incident. The tablet in place, I was now free to plan for my trip across Ellesmere Land into the land of the white wolf and musk-ox for a series of motion pictures.

I had added another Eskimo permanently to my party, Koo-e-tig′e-to, son of Oo′tah, famous assistant of Peary. I had known him since he was too young even to remember me; in fact, I had pulled him out of the water when he was wearing, for the first time, his first pair of civilized pants which we had made for him on the Roosevelt. Strutting on the ice as proud as the proverbial peacock, he walked into a hole. His lusty crying proclaimed the fact that his new feathers were spoiled.

He was now still unmarried, had a good team of dogs, and wanted to remain with us; therefore I decided to take him with me across the Sound. With all Eskimos gone, quite a task devolved upon Bromfield, our best hunter, to supply the ship and the Eskimo women with meat. About this time a young couple appeared, Ki-wee′a and Ah-mow-neddy. The boy was the brother of Ah-tung-u′nah, one of our women, and the girl was a cousin of Koo-e-tig′-e-to. As relatives all work happily together and for each other, this was an ideal couple to leave behind at Refuge Harbor, the husband as a hunting companion to Bromfield and the wife to help in sewing and cleaning skins.

I had delayed my trip west until the month of May, the sealing month, when seals cut through their winter breathing-holes with their sharp claws and emerge into the bright sunshine for a sun bath. On certain days the surface of the ice is dotted with their dark bodies, on their sides, on their backs, on their bellies, fairly reveling in the genial warmth of the spring. They have three enemies when out of the water, the white wolf, the white bear, and man. The two former are concealed in stalking by their resemblance to their environment; the latter employs a white screen formerly fashioned from a frost-dried sealskin; now, since the advent of white man, from cotton cloth. This screen, roughly two feet by three in size, is stretched tightly by the aid of two sticks in an almost vertical position from the nose of a small wooden sledge upon which is lashed the hunter's rifle with muzzle projecting slightly through a hole in the center of the screen. On hands and knees behind this as a cover, the Eskimo creeps stealthily toward his game. Ten and even more a day are often secured in this manner while seals are basking.

On May 12th, the Eskimos came in with seven, a sufficient number, I thought, to guarantee us plenty of food for our dogs while on the Ellesmere Land trip. In other words, seals were 'up,' and we could now live upon the country and go as far as we pleased.

On the 13th we were away, E-took′a-shoo, Kah-ko-tchee′a, Koo-e-tig′e-to, and I, on a four-hundred-mile trip. It was good to be on the trail again during the long bright days of May when the sun circled continuously about our heads, no darkness with which to contend, no biting winds, no blinding cold drift, no frost-bitten hands and feet. But there were other things which we did not contemplate.

Ten hours' travel found us again across Smith Sound and snugly in camp on the sea ice one mile from the Greely camp. One seal only was seen in crossing; therefore our dogs went to bed supperless. Wednesday, the 14th, was a hard day due to the deep snow of Buchanan Bay, across which our course lay to reach Bache Peninsula. As I was the only one who had snowshoes, I broke trail most of the way, walking ahead of my dogs. It is one of the anomalies of the Eskimos' travel that they do not appreciate the snowshoe! If supplied with a pair they generally leave them on the trail or lose them. My only explanation is that they travel only when sledging is good, since they are never in a hurry. If an unexpected amount of snow is encountered on the trail, they stick close to their sledges and use the whip unmercifully.

All three of the Eskimos tried to stalk seals, but they were unsuccessful. With heads up these wary animals were on their guard against anything suspicious-looking. Our dogs were getting hungry. Evidently the whole of Buchanan Bay was under a uniform depth of snow. Therefore, when we broke camp on Thursday morning, E-took′a-shoo suggested that we try the tidal crack of the Bache Peninsula. This is the break between the sea ice and the ice foot, or fast ice attached to the land. Upon the full and new moons the tide generally wells up through this crack and overflows the sea ice for a short distance. Deep snows absorb this water as a blotter takes up ink; the result in cold weather is a hard sledging surface following the sinuosities of the coast line. This serpentine track increases one's distance by miles, but results at the end of the day justify taking it.

E-took′a-shoo was right. We bowled merrily along westward toward the Weyprecht Islands. Just inside of Flagler Bay the boys killed two seals. Knowing that if we fed the dogs there and then, we could get no more work out of them during the day, we lashed the seals upon the sledges and carried them to our camp well up the Bay. Three hard-working days without food is a common experience for an Eskimo dog.

Others had selected this very spot for a camp, as was shown by the débris scattered among the rocks. Not recognized as my own or Ekblaw's of the 1915 and 1916 trips, I knew it to be from the Sverdrup Norwegian expedition of 1908–09 which had wintered in Rice Strait.

The contour and height of the hills and the change in direction produce some remarkable and most surprising as well as disheartening changes in the sledging surface. One can slide from an icy surface almost into a snow bank. The character of the ice in Flagler Bay the day before led us to believe that our good fortune was to continue clear to the head of the fiord and up the river valley. 'Not so,' said old Torngak of the North. 'You are having too good a time!' And into it we plunged for the rest of the day, slump, slump, slump. The dogs were filled with seal fat fed to them the night before. It was too rich for their stomachs. Most of them lost their last night's meal during the day. Our trail was well marked up the fiord — an incentive on the return trip. We killed one seal during the day, which supplied us with a bit of meat for the valley trip. We camped in the river-bed, one mile from the sea ice.

Here Sverdrup found no snow at all. He was compelled to abandon his sledges and proceed on foot. We were fortunate in finding good going all the way and were over the top and down the other side in record time. When at the height of land, we questioned whether to turn left and go up over the ice cap, thence down into the head of Bay Fiord, or continue on down through the valley into a bay leading to Bay Fiord. The latter way was a new route for me; therefore I wished to compare the merits of the two. We concluded to continue straight on. All went well up to six o'clock in the evening, when suddenly we encountered a straight drop of twenty feet in the river-bed leading into a real gorge filled with impassable drifts. We reconnoitered right and left for a possible way out of the difficulty. Bare ground as far as we could see! We pitched our tent to think it over and to make a more thorough examination of the whole valley.

After supper we started out in different directions, each to return and make his report. Not a snow-covered route was found in any direction. Was it best to go back and try the glacier route or sledge over bare ground? We decided to go on. In the morning we started over the grit and gravel and stones and even rock. How I hated the sound of the cutting of our steel runners which we had polished so carefully and so laboriously before leaving the ship! Smooth runners are the equal of two good dogs.

We pushed and yelled ourselves across country until we at last reached the main river-bed, which eventually opened out into a lake a mile long. This we learned later was of recent formation, due to the damming of the whole valley by a large glacier, which has advanced since 1910. Even at the present time the back water is of sufficient depth to float one small iceberg. This body of water will gradually deepen with the years and stretch ever back until it reaches the height of land; then go tumbling down the eastern side of Ellesmere Land into the headwaters of Flagler Bay instead of down the western side into Bay Fiord.

Thus Nature, using the moisture in the air, a commingling and solidifying of the infinitesimal drops, builds a dam, where man would have used millions of bags of concrete and expended millions of dollars. The dam needed no inspector to watch its growth step by step. The work is well done and is accepted. This glacier, which is doing its work so efficiently and which will eventually change the character of this section of the country, I have named after Dr. Chester Reed, Associate Curator of Geology of the American Museum of Natural History.

Although the place was of great interest, for we had entered one of Nature's great workshops, its attitude toward us was a bit hostile. Would it permit us to pass? Must we return after all? We left our dogs and walked on for a closer examination, entering the narrow pass between the face of the glacier and the rocky hillside. We found it filled with a chaotic mass of ice blocks, ranging in size from that of one's head to that of a small house, which had been detached through motion and expansion and contraction from the face of the glacier. Passing could be accomplished; it simply meant work and patience.

We returned for our dogs and began work with our small sledge hatchets, battering all obstructions into pieces and filling up dangerous holes. At the western end ropes were utilized in lowering our sledges into the river-bed and the work was done. I looked back at it as we drove away, saying to myself, 'Old boy, we'll never see you again. You may do your worst!' — for we had decided to return by way of the ice cap. It seriously considered taking me at my word two weeks later.

We now entered upon an alluvial plain which was a perfect maze of river channels called by geologists a braided stream. A wrong decision as to the main river often found us at the end of a snow-covered patch and facing a long stretch of bare ground. But our experience of the day before had left us not oversensitive to the condition of our runners; therefore, indifferent to further damage, we struck boldly across gravel patches and river-banks determined to reach sea ice. I missed the masts on the Bowdoin and the ice barrel. If I could only have gone aloft and increased my range of vision, our course would have been so much more direct!

With a feeling of relief we rounded the last point and bounded down over the ice foot to the sea ice, so clear and smooth that it almost resembled pond ice in texture. But with each leap of the dogs the wind seemed to increase in violence.

The site for a camp is always selected with reference to its water supply, either water or ice. Snow is to be avoided, since it is so slow in melting that pots are invariably burned by the Primus stoves if not carefully watched. Then, again, to convert snow into water requires at least one half again as much oil, a serious waste of fuel on a long trip.

At our right were three gulches either one of which might contain fresh-water ice. We swung the dogs broadside to the wind and headed for the land. A boat without keel or center board is a poor thing closehauled and even on a reach, since it slides off bodily to leeward. Away we went, dogs, sledges, and the whole outfit. I have never felt like anchoring before when dog-driving! At times, when at the mercy of a heavy squall, I had seriously questioned our ability to make the land. The dogs were repeatedly stopped dead as we headed more into the wind. A snow patch now and then seemed like a haven of refuge. It was good fun, however, speculating as to whether or not we should reach the next!

Reaching the land, three of us were considerably amused at the antics of E-took′a-shoo trying to head up for our prospective camp. He was nearly blown out of the bay. I could imagine him with his practical mind criticizing us for beating to windward when it was so much easier to rattle off before the wind to leeward, which was really our course to the musk-ox grounds. He reached us, puffing, with a 'Now! I-o!' — a favorite Eskimo expression, and a smile. Down in the bottom of the gulch we pitched the tent within a few feet of good brook ice. The wind roared over our heads and at times whirled about the tent, but we were secure, and plainly tired with the long day. A meal of tea, biscuit, and canned beans, and we were away to the land of dreams.

Monday we crossed the fiord to the south side where we had obtained musk-oxen in 1914 and 1916. Seal holes and bear tracks spurred the dogs on at a fast clip over excellent ice. Shortly after making camp, Kah-ko-tchee′a brought in an Arctic hare, which provided us with our supper, and lumps of coal with which to cook it, had we cared to do so!

A country with food, fuel, and clothing should be called 'rich in natural resources.' This country has all three in abundance. I do not venture to state how many thousands or millions of tons of coal there are here. Large and small lumps can be found in many of the river-beds, and enormous veins are seen as outcroppings on the face of cliffs. A chemical analysis shows it to be a good grade of bituminous coal. As yet we had seen no musk-oxen, though their tracks were everywhere as in former years.

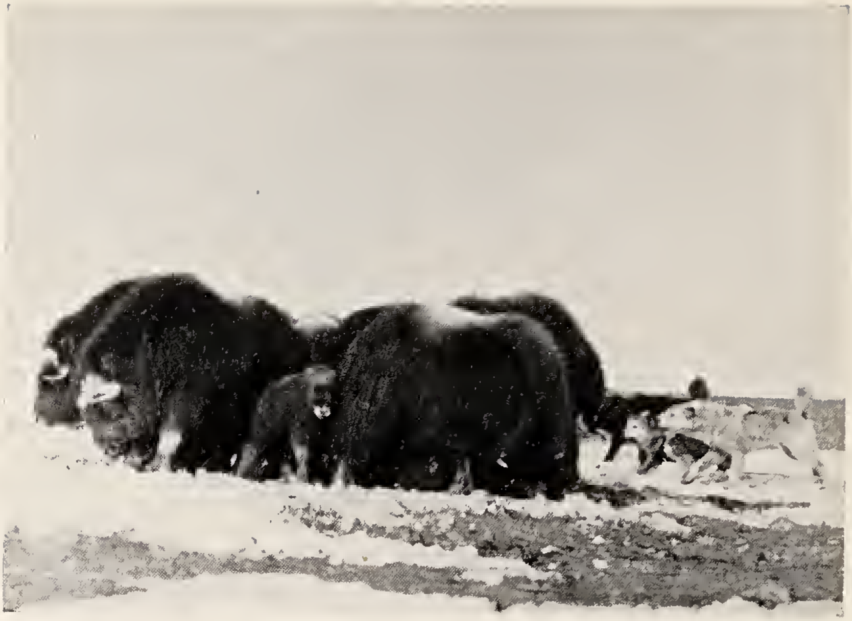
On Tuesday we drove down the fiord toward Eureka Sound in gradually deepening snow. The Eskimo boys kept their binoculars and telescope in constant use scanning the hills for musk-oxen and the sea ice for polar bears. E-took′a-shoo happened to glance back over his shoulder. He stopped his dogs, seized his glasses and looked long and hard for a minute or so.

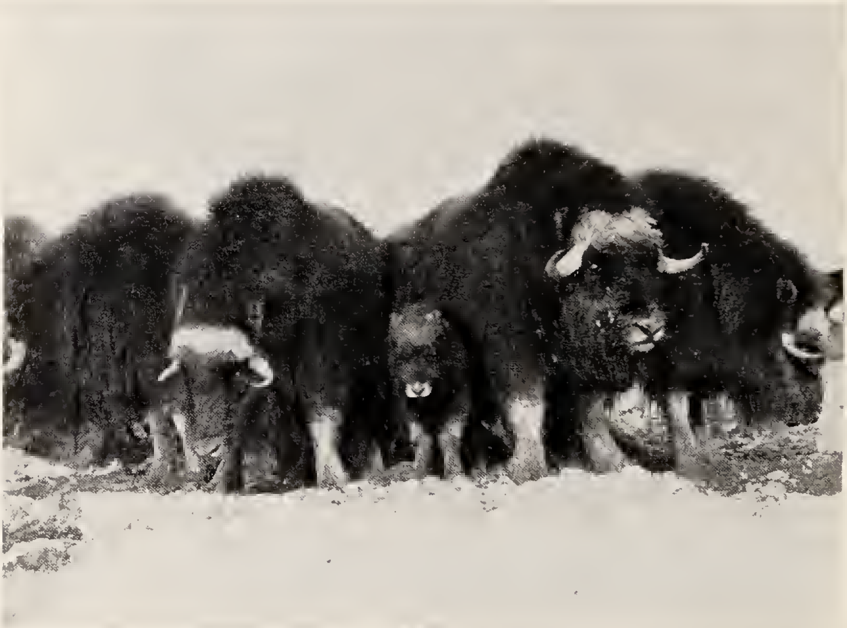
'Ah-mow!' he called.

A lone white wolf was following our trail. We both recalled a similar experience ten years before when a big lone wolf came up behind us and stood within twenty yards, and we had no rifles! Now we had three of the best. I suggested to Kah-ko-tchee′a that he lie down on his stomach on the trail behind the sealing screen, while we drove on. The wolf was bound to follow and come within range of the rifle. We whipped up our dogs including Kah-ko-tchee′a's team. Mr. Wolf, unsuspecting and very curious to know just what kind of animals we were, trotted right up to the screen.

I had read in earlier Arctic books that a wolf was extremely hard to kill. I can readily believe this after seeing the terrible wound in his side made by an eight-millimeter bullet, which laid bare his vitals. He turned and with a second shot through his hind quarters ran fully a half-mile along the trail before dropping! At the report Koo-e-tig′-

THE WHITE WOLF OF THE FAR NORTH
Enemy of musk-ox and caribou





MUSK-OXEN IN DEFENSE FORMATION

e-to wheeled his dogs and hurried back to be in at the death. I was astonished at the size of the animal when the boys brought him in lashed to the upstanders of their sledge. He measured six feet from nose to end of tail and three feet in girth. He was six inches higher at the shoulder than our largest dog and weighed roughly a hundred and fifty pounds. He was an old male which had probably been driven out of the pack by a younger wolf. Such happens also among musk-oxen and walrus. Old age and failing strength must inevitably give way to the strength and ambition of youth.

While Koo-e-tig′e-to was driving back for Kah-ko-tchee′a and the body of the wolf, E-took′a-shoo with the glasses made a minute examination of a large river valley abreast our sledges. I heard him say to himself, 'I-shoo-wo!' which, translated, means 'That's so,' or, 'I thought so!' Two herds of musk-oxen, one of twelve and the other of ten, were seen grazing. As the sky was heavily overcast and the light unsatisfactory for photography, I decided to camp at the river mouth and await a bright day for my motion pictures. Having come so far I would take no chances with a poor light.

The musk-ox, scientifically known as *Ovibos moschatus*, is for several reasons the most interesting animal in the North. Scientists at first classified it as a member of the sheep family, possibly because of its undercoating of wool. To-day, it is decided that it is more closely allied to the American bison, or buffalo, than to any other animal. It is of interest to note that this animal has come down to us from a period of some five hundred thousand years ago! One other tiny animal in the North, and one alone, the lemming, has traveled the long way in company with the musk-ox. The Eskimo name for the musk-ox, Oo-ming-muk, is very impressive, as it means an animal with skin like a beard, referring to the length of the long black hair, which often trails in the snow.

The animals of the Far North, such as the polar bear, wolf, caribou, hare, lemming, ermine, fox, are all white, a protective and deceptive resemblance to their environment. A black polar bear would die of starvation, being unable to stalk seals. A black Arctic hare would hardly dare to emerge from his hole under the snow. White is a life-saver in both cases in this ceaseless struggle in the animal world. There is another reason for the utilization of the color white in the Arctic regions, a conservation of bodily heat, which is needed by animals living in temperature of −60° and −70° F.; for none of the animals mentioned hibernate during the winter. A white animal does not radiate heat as readily as an animal of any other color. The white dress for an Arctic animal is physiologically perfect.

The musk-ox is the apparent exception in the Far North. He is black! And yet this color is a decided protection against one of his enemies, man. I have often seen black dots on a white hillside and been undecided even with the aid of a good glass as to whether they were boulders or musk-oxen. Even when close enough to show clearly the grayish white patch on the back, they strikingly resembled boulders, the tops of which were sprinkled lightly with snow, a familiar sight all through the North. Even my Eskimos were unable to decide until there was relative change of position.

Furthermore, these animals feed upon dark windswept areas whenever possible and resort to lightly covered snow fields only when compelled to do so by hunger. In the spring of the year, when mothers have their young and therefore are in need of the greatest protection, they are only momentarily on snow patches when crossing from one feeding ground to the next, and they always sleep on soil.

If made white by Nature it would be impossible for them to keep white; for a musk-ox does not clean himself with his tongue or roll in the snow as does a bear, wolf, or white fox. Therefore it appears that Nature has not made a mistake in painting this animal black when his neighbors are white. He is of interest because of the company he kept some five hundred thousand years ago, the woolly mammoth, the moose stag, and the forest horse. He has so adapted himself to his environment that he has survived them all.

During the first glacial period he appeared on the southern coast of England, driven south by the advance of the great ice sheet in Scandinavia. His bones have been found as far south as the northern slopes of the Pyrenees Mountains and in our own country as far south as New Jersey. To-day, its range extends from the northern part of Canada to the most northern point of land in the world, Cape Morris Jesup. It is found on the eastern and northern shores of Greenland, all through Ellesmere Land, Axel Heiberg Land and islands south, except Baffin Land. From Etah northward to the Humboldt Glacier numerous skulls testify to its former existence in considerable numbers. It became extinct in this locality about 1860.

The musk-ox is gregarious, necessarily so for protection against its only enemy besides man, the Arctic wolf. A lone musk-ox is always an old bull, one that has undoubtedly been beaten in battle for the hand of Mrs. Musk-Ox and in a fit of despondency become a hermit. The herds I have encountered in Ellesmere Land, Grant Land, and the northern end of Greenland have varied in number from ten to fifty. I believe they have a tendency to herd more closely together during the dark period and to separate into smaller bands during the summer. I do not consider the musk-ox dangerous to man, provided the latter remains at a respectable distance of fifty yards, yet I have never encountered them without dogs. Unless attacked they would, without doubt, make good neighbors.

Baumann, of the Sverdrup Expedition of 1898–1902, was attacked by a herd of thirty in King Oscar Land.

With his back to the edge of a precipice there was no retreat; therefore he yelled, waved both arms, and ran through them. They followed and renewed the attack and the strategic move was repeated successfully. They attacked again and possibly would have killed him had it not been for the timely arrival of his dogs which diverted the attack. Lieutenant Rawson, of the Nares Expedition of 1875–76, attacked a cow and calf with a knife. He succeeded in stabbing the former three times without injury. Deciding that the small knife would not reach a vital spot, he lashed it to his alpenstock and finally killed her.

At noon Wednesday the sun appeared from behind the clouds. We hitched up our dogs and started at once up the river-bed with the heavy Akeley camera and five magazines of film containing a thousand feet. The musk-oxen had gone! And owing to the rapid melting of the snow and numerous criss-crossed tracks we could not determine in which direction. For some unearthly reason E-took′-a-shoo pointed west. He had a 'hunch,' to use a slang expression, that having heard the howling of our hungry dogs the night before they had gone in that direction. His judgment was not to be considered lightly. We drove off in that direction, and were rewarded in a half-hour by a sight of one of the herds sound asleep on the top of the highest hill. It is a familiar custom with this animal when pursued or alarmed to seek the heights where it cannot be surprised by a sudden attack; for it commands a view of the whole low-lying country. I have known it to ascend a talus slope and place its back against a cliff. A wolf would have no possible chance to contend against an animal in this position, unless he starved him to death. Then it is a question as to which one could hold out the longer.

At the base of the hill and unseen by the herd, we fastened our dogs securely to outcropping rocks. The men considered five dogs enough to hold the herd in position while I was getting my pictures; therefore we took this

A BABY MUSK-OX

ELEVEN DEGREES FROM THE POLE

number on a leash, some of the very best, for dogs slow on their feet are often tossed into the air, frightfully mauled, and even killed.

Were the animals still there or had they bolted? I was so anxious to find out that I do not remember carrying the heavy metal camera in one hand and the tripod in the other the whole length of the hill. Arriving at the summit we peered from behind a rock. Two of the animals were just rising. The Eskimos in a low but stressed voice spoke to their dogs and released them. As they bounded forward, all the musk-oxen, including one calf, scrambled to their feet. I rushed across the intervening space and set up the camera at a distance from them of about seventy-five feet, remembering that I had never seen them charge more than fifty feet. The twelve full-grown animals and the calf were in one mass, closely huddled together, and all facing out from the center. This is their only 'formation,' if it can be called that. That 'they form a square,' that they 'stand at regular intervals one from another,' that they 'advance in turn with almost military precision,' that the 'remaining oxen cover the gap in the square,' that 'the cows and calves are in the middle,' that the 'reserve is mobilized,' that 'their order of attack is planned from the first,' my pictures all prove to be false. I have seen and studied many herds of these animals during the last seventeen years under all kinds of conditions, cold weather and warm, snow-covered ground and bare ground, smooth and rocky, with calves and without, small herds and large, and have never seen the above-quoted statements verified.

These animals huddle almost as sheep would huddle, with the exception that the full-grown do face the enemy and most of the fighting is done by the bulls, who charge with head low to the ground to pick up a dog as their natural and possibly only enemy, the wolf. They will never charge far from the mass for fear of being surrounded, which would mean their death by the pack; and they always return to the circle.

There is no regularity in their time of charging. I have seen them stand with lowered heads rubbing their noses on their forelegs for several minutes and I have seen all the bulls out at once. The rapidity and frequency of their charging depends upon the number of the attacking enemy and the time spent. If they are not shot and the attack by the dogs is long continued, the animals seem to lose patience and to become more vicious.

After the first rapid and determined efforts of the bulls to drive away the dogs, I approached within twenty-five feet of the line and secured both moving and still photographs. One bull charged past me at least thirty feet, turned and looked me over, and rushed back brushing the camera. His hoofprint by actual measurement was six inches from the leg of the tripod. My first impulse was to slip out the two double lenses and 'beat it,' feeling fairly certain that my motion-picture camera was about to be smashed into bits, but, as my better judgment told me I should undoubtedly draw his fire, I remained where I was.

The little fellow, possibly a month old, faced out with the others, and at no time concealed himself in the midst of the herd or under the belly of his mother. I have often seen other calves do this. Later we captured him and slipped on a dog harness.

I have often wondered if a man could ride a musk-ox, and have even had the crazy idea of trying it. That question for me is settled for all time. Absolutely impossible is my best judgment. By way of illustration — when that bit of a calf felt the tug of the trace on his back, he went through a series of more astounding antics than I ever conceived any animal to be capable of performing. He bucked, kicked, jumped on two legs, on four, and even bodily into the air, made a half turn and came down whack on his side — the mode of defense against a wolf hanging to the flanks or hind-quarters. And to think that this calf did it all by instinct! It was by far the most interesting thing I have ever beheld in the Arctic regions. Later, we tied him to the body of the dead wolf. He sniffed at the meat, snorted, backed off, and charged repeatedly. This performance he varied by beginning anew his bucking programme.

These animals could easily be domesticated if they were worth it; for before the day was over we could stroke the head of this little calf and take him in our arms. To raise the animals for the wool on their body is too ridiculous to be considered, since there is more and better wool on the body of a sheep. To raise them for meat is almost equally so, since a large animal dressed would not weigh even two hundred pounds. They are mostly skin and paunch, neither of much value.

It rained on Thursday, May 22d, much to my surprise. We remained in camp most of the day packing away securely my motion pictures, and refilling magazines. On Friday the wind was so violent that for peace of mind and sleep at night I slipped the single pole out from under the tent and let it fall to the ground, covering us like a blanket.

Our work of taking pictures over, we decided to start home by way of the head of Bay Fiord and the ice cap, the 'middle passage' it might be called, since there are two others to the right and left of it. The former, which we used in 1914, leads down into the head of Beitstadt Fiord. The advance of the glacier in late years has, however, rendered this route utterly impracticable.

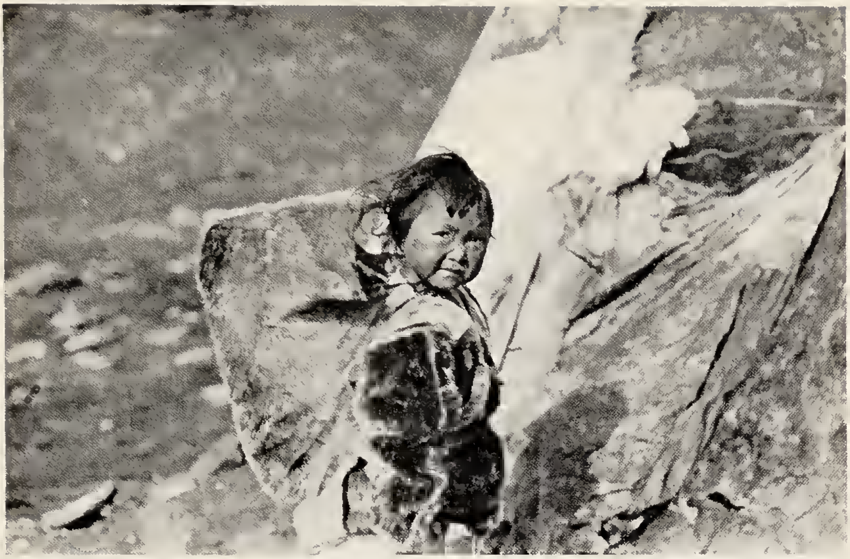
CHAPTER XII

THE STRUGGLE TOWARD HOME

During the first day of our return we covered thirty-five miles from the musk-ox camp to the very head of the fiord, an almost steady drive of eleven hours. The last three miles were excessively bad. With every step we broke through the crust into which the sledges slumped up to the cross-bars.

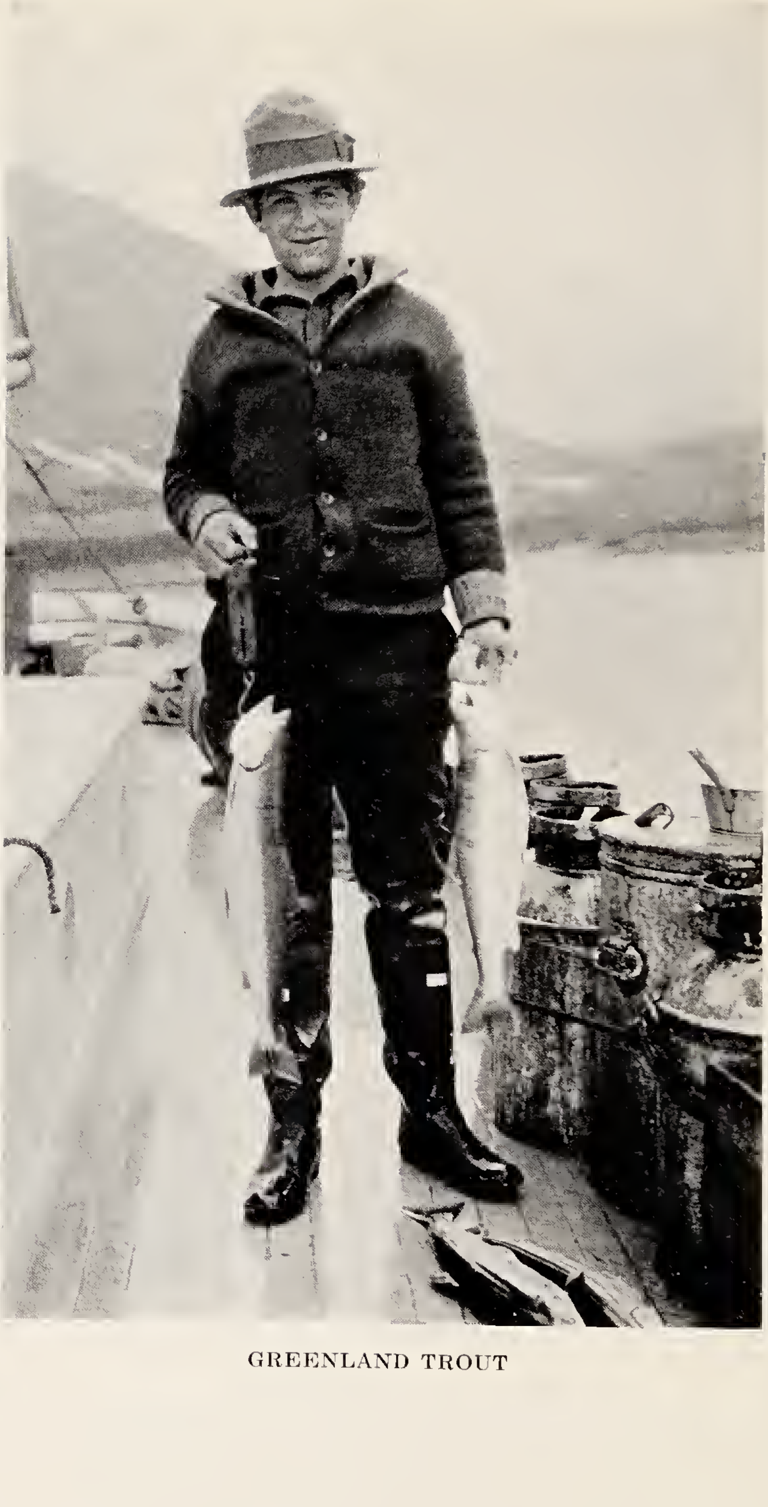
Two musk-oxen were seen feeding on the hills on the south side. We passed them by as we have hundreds in this section. I have endeavored to teach my Eskimos never to kill unless really in need of meat or clothing. The native has the ever-present passion of the small boy with a gun; he often kills purely for the love of killing, a passion found not only in the breast of a savage, but in that of the most highly civilized. You know the picture — a poor, weak, defenseless doe, lying on the ground, spattered with blood. The valiant red-capped, check-shirted, corduroy-panted hunter, right foot on fallen doe, chest out, hands folded over muzzle of rifle, head slightly turned looking off into space with a look of feigned modesty. Pleasure in killing! You may understand it — I do not.

In looking back along the trail covered by years of sledging, I can see only a few places that are in focus; all detail has been obliterated by time; only a few mountain peaks break the horizon. Those high spots of experience are exceptional days, ever to be remembered because of unusual conditions. Somehow Sunday, May 25th, stands apart. Neither work nor toil is a fitting word to express what we did. Sledging and automobiling are in no way related, although both are modes of travel. Dog-driving is a curious combination of ploughing rocky ground with a



ONE CHILD CARRIES ANOTHER
The baby is inside the hood

A NAP



GREENLAND TROUT

high-spirited pair of horses; of playing in the line in a football game — the sledge being your opponent; of being anchor on a tug-of-war team, when you pull back with every ounce of strength to save your sledge from becoming a complete wreck; of being a cruel taskmaster toward your poor hard-working dogs at one minute and a very soft-hearted affectionate friend the next. No one can be a really good man and drive a dog team successfully; and by successfully, I mean carry heavy loads, make fast time, break trail at the head of the line, and have absolute control over one's dogs in dangerous places where a slight move might mean loss of sledge, dogs, and equipment, and the possible death of the driver.

Dog-driving is a pleasure only when a team is well-fed, can be cared for, and has easy stages of travel — a pleasure both to dogs and driver. A good strong dog, like a man, is keen to try out the very best that there is in him. He leaps and bounds along the trail with tail tightly curled and brimful of life. The reverse side of the picture is the starving, overworked dog at the end of a thousand-mile trip, staggering along the trail toward home, which many a dog never reaches.

Leaving the head of Bay Fiord, we turned directly into a river valley, as we did in 1914, as the best route to the back of the big glacier. To scale its face was impossible; although we had in the past made the descent by ropes. Within five minutes we were in snow up to our knees and foresaw trouble. We labored along through the valley with the dogs at times literally unable to advance a step.

It may not be known that, when dogs stop in heavy or moderate going, the sledge must be started again by the driver with main strength and kept going until the dogs with tight traces are pulling together. The reader may recall that, when three and four pairs of horses are used on a heavy load, the starting depends upon concerted action.

Therefore each time our tired dogs stopped in this deep snow, the driver became more impatient and irritable and belabored them unmercifully.

I tried leading my dogs on snowshoes, which plan worked successfully across the plain to the foot of the high hill which we were to ascend and cross. When, however, the ascent began, there was nothing to do but push on the upstanders and yell. To start a heavily loaded sledge up a steep hill, keep it going until the dogs feel the weight, tightens every muscle in the body. When finally we encountered a comparatively thin bed of snow halfway up the hill overlaying a slippery surface where one could not get a foothold, Koo-e-tig′e-to and Kah-ko-tchee′a gave it up and combined their dogs, taking up one sledge at a time. When we did reach the summit of the hill, which after all our work seemed as high as Mount Washington, but was really not more than five hundred feet, the prospect ahead was far from encouraging.

It was our intention to proceed along the crest of the hill for a mile, thence down onto the bed of a glacial lake, and then ascend the gently sloping side of the glacier, eventually reaching the height of land, which was ice-capped. We labored along through deep snow, the Eskimos sinking to the knee at every step, a severe test of physical endurance especially when pushing a sledge.

Within an hour I looked back on the trail and saw Koo-e-tig′e-to tethering his dogs to a hatchet buried in the snow. He had given up and decided to camp alone, unable to go on another step. I think now that he intended, after we had gone on and he had slept and rested, to return and try the valley route alone hoping to rejoin us when we intersected the trail at the height of land. It happened that I had walked ahead of the teams for a quarter of a mile to reconnoiter the trail and had found it fully as bad as that already traversed, and I consequently decided to camp. I called to the boy to come up and camp with us.

He was clearly surprised and looked a bit sheepish as he drove into camp.

I realized the fact that if this deep snow continued it would take us four or five days at least to get over the glacier. As nothing could be obtained for dog food, our dogs with such excessive work would weaken rapidly. With the glasses the ice cap looked deep in snow.

In the morning we started on again at such a slow pace that I seriously considered double-banking. To my astonishment the Eskimos began to unpack their sledges. What was going to happen now? Each one opened a large sealskin generally used under the sleeping-bag when sleeping in the field; placed a part of his load on top of it, brought the edges of the skin together and laced them securely. With nose and tail firmly tied, these strange-looking objects resembled large sausages. It dawned upon me then that they were lightening their load to prevent the sledge from sinking to the cross-bars. The sausages were now in tow. There was very little, if any, increase in pace. A short time later Koo-e-tig′e-to passed all three of us going strong. I looked for the sausage. It was gone. I looked back along the trail. It was nowhere in sight. 'What in the world has he done with that thing?' I exclaimed to myself. The mystery was solved some time later when I saw him tip up his sledge and roll the sausage out from under it. It was bearing the weight of the sledge, which was now a toboggan.

This spurt was not long continued. Our progress was painfully slow. Was the valley route with its sand, gravel, rocks, and glacier front better after all? Why not go back over our tracks to the sea ice, sledge across the fiord, and try it? I hated the thought of giving up what we had attempted, of being conquered by a hill, of wasting all our efforts in accomplishing what we already had done. Evidently all entertained the same thought, for when I mentioned returning and trying our old route home they readily assented. What we had done in thirteen hours going up, we did in *two* on the return. I looked back and almost threw curses at the hill when we reached sea ice.

Our troubles were not over. The high temperature of the day before had played havoc with the previously hard snow banks on the ice. In their endeavor to find a firm footing, the dogs wandered like sheep in spite of our whips to keep them on a straight course for the northern end of the bay. Eventually we worked out onto our smooth ice field of the first day and away we went for the river mouth. We camped on a beautiful tract of dry land beneath a beetling black cliff. How good the hot sun felt as we stretched out flat on our backs on thick soft musk-ox skins, each dreaming dreams of far away, of green lawns, playing fountains, rustling leaves, school days, college days, boyhood friends; my native companions of summer encampments beside babbling brooks, playing children, blue stretches of water, an ever-revolving sun!

The harsh cry of the gyrfalcon awakened us from our reverie. Yes, there they were — two wheeling white dots against the blue. The nest could be easily seen — a white splotch against the black, but plainly inaccessible. A burgomaster or glaucous gull came house-hunting during the evening. He was pounced upon immediately, ignominiously beaten, and driven out of town by these fierce fighters of the North. This gull (*Larus hyperboreus*), destroyer of little auks and eggs of eider ducks, meets more than his match in this bird.

With interest I found embedded there in the ice of the river the head of a large trout or salmon, probably the former, for true salmon have never been found so far north, while trout are plentiful even within nine degrees of the North Pole, being found in large numbers in Lake Hazen, Grant Land, 81° 45′ N. We also found a species of char in a small pond north of Cape Sheridan, 82° 30′ N.

This head resembled closely those which we obtained from Lake Hazen in 1909, from Alida Lake at Etah, and apparently from all lakes between Etah and the Humboldt Glacier. Such are all connected with the sea by rivers during July and August, and are well stocked with trout.

When we awoke on the morning of Tuesday, May 27th, the high temperature warned me at once of what would inevitably follow — a rapid rise of water in the river-bed. I hurried our breakfast and urged the Eskimos to pack up as quickly as possible. We were none too soon, and in fact a bit late; for a quarter of a mile above the camp the water was up to the top of our sledges and certain places not passable at all. As the Northern Eskimo dog is afraid of water, it was only by the strictest kind of discipline that we kept them at their work.

We relashed all our loads, placing perishable goods on top. I was thus relieved of considerable anxiety over my photographs which we had worked so hard to obtain. We alternated during the day between wading in ice water and tramping over dry ground. As a boot made from a Smith Sound sealskin is not water-tight and the sole is very slippery when wet, our footgear was not at all adapted for this kind of work.

Finally it became necessary to unpack everything and tump from one snow patch to the next. We continued this operation for the rest of the day. Numerous bare spots of twenty-five and fifty yards we attempted with full loads, pushing our sledges until we were completely exhausted, and yelling so continuously to the dogs that I was hoarse when we made camp at the western edge of the Reed Glacier.

It was a question now whether we should go over the back of the glacier by cutting ice steps or again attempt a passage along its broken face through the rough ice. Had we been certain of getting down on the other side, we should not have hesitated an instant in our decision. As every one who has been a real boy knows, it is much easier to go up than to get down.

When we packed up in the morning we headed for the broken face and consequent hard work for the rest of the day. Within fifteen minutes our loads were on our backs and we were picking our way cautiously through a chaotic mass of ice toward a twenty-foot sheer drop into the river-bed. Here everything was pulled to the top with our long sledge lashings. Rather than risk smashing our sledges, which is easily done when they are heavily loaded, we decided to tump everything through the narrow pass over the broken ice. I had finished one trip and was on my second, when I saw the Eskimos, who were ahead of me with their first load, scrambling up the rocky slope contiguous to the glacier, looking back over their shoulders and yelling for me to go back. They declared that the face of the glacier was about to fall. I had heard the snapping and cracking, but attached very little importance to it, knowing that we must take that chance in order to get by. The face of a glacier often snaps for hours before it falls. I went on, calling to them to hurry up and get dogs, sledges, and equipment by before it did fall.

Reluctantly they returned to their abandoned packs and followed me through at a furious clip puffing and sweating in their anxiety and excitement at the thought of being buried under tons of ice. They would not return, however, in the same way, but scrambled like goats along the side of the hill. If one's thoughts were permitted to dwell upon the possibility of such a contingency, the situation, I admit, would seem a serious one. It was better for our peace of mind to declare that it wouldn't fall than to feel certain that it would.

In working dogs and sledges over and through the rough ice, we deemed it prudent not to use our axes, as the vibration might start something. I happened to mention that I believed a rifle shot might cause a fall. E-took'a-shoo suggested that it might be well to wait until we were out of it before we tried it.

One block weighing a ton or more fell behind Koo-e-tig′-e-to. His Arctic-hare jump, his startled look and the dropping of his pack were funny to us in a safe place, but not so to him. He looked at his pack for some minutes before he gingerly crept back and again adjusted it to his head and shoulders. A few things only were abandoned as not being worth the risk.

As we drove out onto the surface of the lake, I knew that we were the last to go through that pass for thousands of years to come. In another year the face of the glacier would press against the rocky slope of the hill and the western end of the valley would be closed to travelers. A closer examination of the eastern slope confirmed our belief that a descent would have been dangerous and even impossible.

We proceeded on up the valley to the gorge and pitched our tent in the river-bed, knowing that we were facing a hard day, for it was here that we encountered the long stretch of bare ground. The next morning we shouldered our heavy packs and climbed the hill to the plateau above, each man making two trips. We returned for the dogs and empty sledges. Tumping and sledging intermittently, we plodded over bare ground to the river-bed above the ravine. To our delight the trail leading on to the height of land was nearly as good as when we came over it twelve days before. Was it possible that we could go over in one day? I had anticipated at least two and possibly three, if the same warm weather prevailed here as we had experienced in Bay Fiord. Up we went and down the other side at a rattling pace, camping within sight of sea ice.

In crossing from Bay Fiord to Flagler Bay, we observed numerous sites of old Eskimo encampments, indicating one of the migration trails of the Smith Sound Eskimos many centuries ago. In fact all lands west of North Greenland show former habitation by these nomads of the

Arctic. The existence of so many tent rings and old abandoned igloos in Bay Fiord, Eureka Sound, Axel Heiberg Land, Amund Ringnes Land, and North Cornwall, observed by me in 1914 and 1916, would not be proof of a vast number of these people or extinction by starvation or disease, but signifies simply a moving on to better hunting grounds, as is their custom.

A short drive the next morning brought us to sea ice and excellent sledging. By four o'clock we had killed three seals for our dogs, which were sadly in need of them, having been without food for four days. Henceforth they would be full to the neck! We camped at once to give them a banquet.

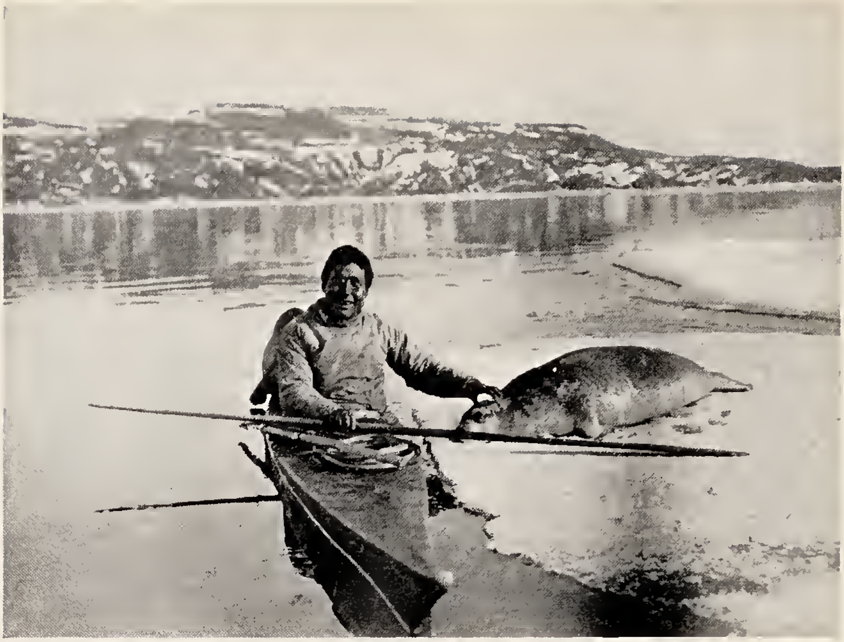
With astonishment we found the mouth of Flagler Bay completely open. This large stretch of open water was fairly alive with eider ducks, old squaws, and burgomaster gulls. Many old Eskimo igloos on the south side of the entrance would indicate the fact that conditions were the same here centuries ago as to-day, for a village is always situated with reference to its food supply.

We have found the mouth of this bay open in February and March. The Eskimos affirm that it is rarely closed. This condition during midwinter is undoubtedly due to the undercutting of the ice by the strong tide flowing in and out of the bay. Since the ice in the vicinity of this hole is much less in thickness than that covering the rest of the bay, it is readily and quickly melted by the warm sun in the spring — result, a tremendous hole early in the season.

Our only way out was by ice foot along the land on the north and east sides. Arriving at the outer point we discovered the ice foot gone; our trail led to a black wall. The sea ice was only twenty yards away. Blocked again! To return into the bay and follow the east and south shores was a long hard trip. The natives called my attention to several pans which were detached from the main field, and remarked that possibly on the flood tide they might swing within reach and thus form a bridge.

A SEAL-HOLE IN THE SPRING OF THE YEAR

A GOOD BAG



SEAL-HUNTING BY KAYAK
This Eskimo had been presented with a pair of spectacles

SEAL-HUNTING ON THE ICE WITH A RIFLE
What the seal sees when he lifts his head

We returned to a niche in the cliff and pitched our tent to await what might happen. About midnight Kah-ko-tchee′a came running back from his observation post with the news that one pan was swinging across the intervening space. We grabbed the tent, sleeping-bags, cooking-box, skins, and other camp paraphernalia and hurried along the ice foot to the crossing. We rushed back for our dogs and sledges, and within a few minutes were all across on the ice of Buchanan Bay. We proceeded east to the immediate vicinity of a large iceberg, from which we could obtain water for our tea, and there camped for the night.

On Sunday, June 1st, we covered thirty-five miles, following mainly our old trail along the shore of Bache Peninsula, thence cutting across through heavy going to Camp Clay of the Greely Expedition. Just before making camp E-took′a-shoo shot two seals at one hole. Earlier in the day Koo-e-tig′e-to had captured in the snow a seal that had wandered away from his hole; consequently we had an abundance of meat for our dogs.

Before proceeding on the next day, I walked into the camp to get a rock from the walls of the old hut to fulfill a promise made to Goddard, who wanted a souvenir rock for a prospective fireplace. It happened to be thick fog; consequently I stuck close to our old sledge trail. Returning, I became confused over several trails leading onto a wind-swept ice patch and nearly missed my men. A yell to ascertain their whereabouts brought Koo-e-tig′e-to on the run and very much alarmed, knowing that I never carried a gun. He was afraid that Mr. Bear and I were disputing over the rights of the trail.

We felt now that our trip was over, and headed out into the fog-covered sound for home, which we reached about midnight by an overland route, leading our tired dogs. The sledges we were compelled to leave on the ice foot west of Cairn Point because of open water. A yell from the ever-watchful Eskimos aroused the men on the Bowdoin who came rushing out to meet us. All was well on board under the charge of Robinson.

One bit of news was of interest. The boys had lost my two-thousand-dollar motion-picture camera and tripod, which had gone to the bottom off Cape Hatherton in fifty fathoms! I had anticipated this, and consequently had brought a spare which I had just returned with from Ellesmere Land. With an expert mechanic on board I was optimistic as to a continuance of its good work.

CHAPTER XIII

GLORIOUS SPRING DAYS

What a difference three weeks had made in conditions about the ship! No longer snow houses over our hatches to retain heat and break the wind; the Bowdoin's decks were absolutely clean. No longer a snow embankment from bow to stern to prevent internal condensation. Her sides were exposed to a continuous sunlight to warm her up. The Eskimos and two of my men, Goddard and Mix, were in tents on the high dry ground. Summer had come and was being proclaimed by the dovekies, black guillemots, eider ducks, long-tailed ducks, and glaucous gulls. The men were happy because they were busy; the natives were busy because they were happy. Although born in the North and spending their days there, they admit that they prefer warm weather to cold, and for this reason they enjoy hunting and they enjoy eating.

We have heard of the proverbial man in the South who lives under the banana tree and shakes for his dinner. Conditions are almost parallel in the North in the summer. The Eskimo can sit on a talus slope and wave a dip net for his breakfast. It is too easy; he lets his wife do it! The hillsides are literally swarming with bird life from May 15th to the first week in September. With watch in my hand I timed an Eskimo woman and counted the birds netted. She averaged one a minute. They will often catch five at one sweep, so the Eskimos tell me. The number whirring by cannot be exaggerated.

The plump little dovekie, weighing between three and four ounces, is a deliciously edible morsel. Its contribution to the Eskimos' winter food supply is no small one. Formerly the skins were made into shirts, the feathers being worn next to the body. A stronger and larger skin for this purpose, however, is that of the Brünnich's murre, large numbers of which are also netted at various settlements on the coast.

While the women and children are engaged in netting birds and gathering eggs by the thousand from certain duck islands, the men and boys are out in kayaks hunting walrus and seal, the former a dangerous adversary and one which requires considerable skill in capturing. To attack a thousand and even a two-thousand-pound animal from a frail, almost paper-thin, sealskin boat measuring twenty-one inches wide and nine deep, calls for courage in the highest degree. No Eskimo can swim, and swimming would avail but little in water at 29° Fahrenheit.

It is a beautiful sight to see a man of experience, seated in his kayak with deck awash, dart noiselessly up behind the rounded black back of a walrus up from his bed of clams to breathe for a few minutes. The moment is tense to the onlooker when the hunter disengages his right hand from the double paddle, grasps the ivory steel-tipped harpoon, draws it back over his shoulder, and throws with a graceful curve. Almost before the weapon has reached its mark the hunter is away with vigorous strokes of his paddle. The carefully coiled line whirrs from the deck as he retreats. The float, an inflated skin of a seal, and the drag drop into the water. We anxiously watch for motion, the signal that the game has been bagged. The float is violently jerked through the water, at times wholly submerged. The walrus is swimming deep and doing his utmost to escape from this strange enemy, hitherto unknown.

Rising to the surface, he glances at the black object persistently following. He turns, draws back his massive head, and jabs repeatedly with his strong white tusks. The air-inflated skin rebounds like a rubber ball. Discouraged at his futile efforts to inflict damage, the animal, breathing hard and with bloodshot eyes, surveys sullenly

LITTLE AUKS AT ETAH
A staple article of food for the Eskimos

POLAR BEAR AND CUB TRYING TO ESCAPE FROM THE BOWDOIN

MILLIONS OF TONS OF ICE
Note the size of the iceberg in comparison with the men

the encircling kayaks with their merciless killing irons. It is cruel work, this quest for food that we may live.

A long line of kayaks headed for shore signifies that the battle is over and the game in tow. The inflated sealskin, now upright in the water with its outstretched flippers strangely resembling an animal, bobs and whirls in the wake as it supports the thousand and more pounds of rich red meat.

A rough pile of rocks marks the cache. When the summer's sun falls below the horizon and the Northern land is wrapped in darkness and winter sleep, a dog team stops on the ice foot, a fur-clad figure ascends the slope, hesitates for a moment as he peers into the gloom, picks his way among numerous old rock piles, the former caches of his ancestors, and stops beside his summer's work. Rolling away the rocks, he finds the various pieces a frozen mass, discouraging to a white man, who would certainly require a crowbar, axe, and saw to obtain even a single piece.

The native, by long practice, is an adept in the use of the wedge, one of primitive man's most useful tools. He inserts a pointed rock between two joints. His hammer is a rock as heavy as he can lift; and he may continue to lift and drop for several minutes. Infinite patience is one of his virtues. He has plenty of time. He is not a slave to factory whistle or time-tables or office hours. Eventually each piece lies by itself on the sledge, which disappears in the darkness, its objective a lighted sealskin window down the shore, and behind the translucent square, seated on the warm fur-covered bed, wife and laughing children anticipating father's arrival.

The meat is dragged through the long entrance, pulled up through the hole in the rock-covered floor, placed in the center of the room, and the banquet is on. The frozen meat is too hard to cut; therefore it is hacked with a large knife, much as they hack ivory or bone or hard wood in fashioning parts of their equipment.

The frozen chips are passed to the naked children tumbling about among the skins, who suck and chew and reach out over the bed platform for more. The joint is now placed in the vicinity of the soapstone lamp, where it may readily thaw. Later in the evening the neighbors are summoned to a steaming pot full of cooked meat. Tongues wag, jokes are cracked, laughter reigns in the primitive home, while outside biting winds sweep down from the ice-covered hills above and the ice foot emits weird sounds.

Nannook, the polar bear, is the King of the North. And as yet not a single specimen secured by any one on the expedition! Not that polar bears are decreasing in numbers. One may find them anywhere and everywhere and then not see one for months at a time. It is largely a matter of chance. They had certainly visited the ship and the immediate neighborhood during the winter night, as was indicated by the numerous tracks on the ice and near-by hills. When we were visiting fox traps at Cape Hatherton, four miles south, we frequently found a maze of fresh bear tracks.

Robinson and McCue were especially anxious to get a good specimen. To Robinson I offered my dog team lately returned from Ellesmere Land; to McCue, that belonging to Koo-e-tig′e-to. With a fresh team, that of Ki-wee′a, to break trail, and an experienced man as guide, E-took′a-shoo, they should have no trouble in covering plenty of distance in two weeks. I confidently expected them to kill at least two bears, for this is a favorite resort of these animals, who undoubtedly frequent the vicinity because of an abundance of seals, which here find ideal conditions for giving birth to, and guarding, their young. The maternity hospital of the prospective seal mother is on the surface of the ice beneath a snow bank, connected with the sea by a hole, well protected from the cold, but not always from the keen scent of a bear, who digs down through the roof of the home, kills the little one and lies in wait for the mother. We have often found the bones of both scattered on the ice.

This custom of making an igloo under the snow is peculiar to the little ringed seal (*Phoca hispida* or *fœtida*). The harp, the bearded, and the hood or bladdernose give birth to their young on the surface of the floe, and drift southward with the Arctic current to the shores of Labrador and beyond, where the youngster takes to the water and with its parent slowly makes its way northward.

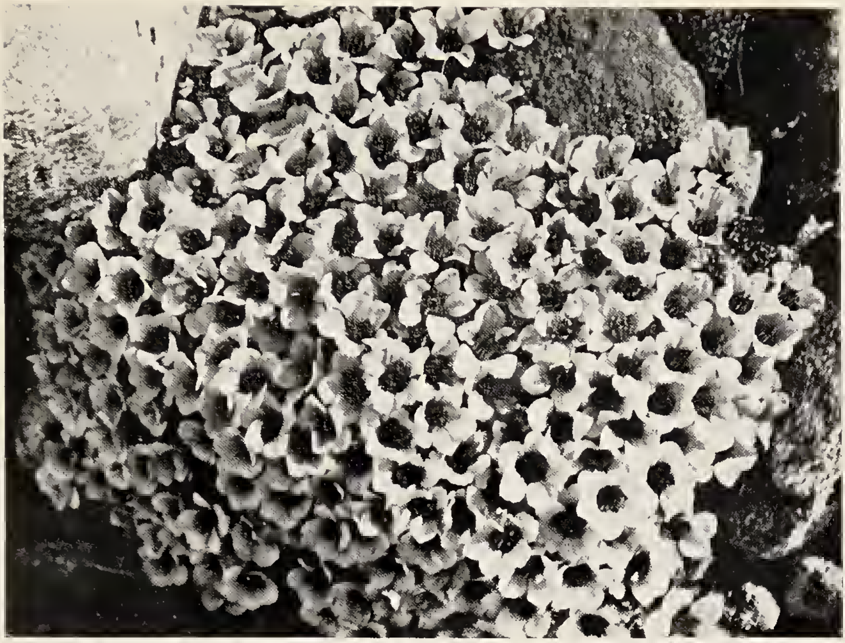
The principal food, therefore, of the polar bear is the little ringed seal, the 'floe rat' of Northern whalemen. When sated with seal fat, he roams the land eating grass and birds' eggs, that of the eider duck especially, of which he can easily obtain large numbers. The polar bear does not hibernate; he is ever in quest of food. The female makes her den under a snow bank, and generally, if not always, on the land and on soil, the floor of the den a depression, resembling somewhat a large bird's nest. Here the young, one and quite often two, are born in December. About the first of May they venture forth with the parent in quest of seals basking on the ice and of seals' igloos under the snow banks. The cubs travel with their mother for a year at least; for we have killed female bears in May with last year's cubs. We may conclude from this fact that polar bears do not give birth every year.

Evidence is wanting that polar bears ever attack walrus, although terrific battles have been pictured in sculpture and there are traditions among the Eskimos concerning such battles. That they attack musk-oxen is also a moot question. One incident alone might lead one to infer this. In 1916, as we were driving past an iceberg near the shore of a musk-ox country, a polar bear rushed at our dogs from around the corner as if he had been lying in wait. He turned instantly when he discovered his mistake and ran for shelter. I shall always think that the bear had mistaken the black traveling mass, four sledges and thirty-six dogs, for a herd of musk-oxen crossing from one island to the next.

On Sunday, June 8th, the Eskimos killed a hood seal (*Cystophora cristata*). This is also called the 'bladder-nose' because of the air sac on its head, which it inflates at will through a tube leading from the back of the mouth. As this device is used only when the seal is angry or defending himself against attack, it must be there as a means of defense and protection to the skull. The hood seal reaches a length of eight feet and a weight of nine hundred pounds. It is not common in the Smith Sound district and is rarely captured, since it does not frequent the bays and harbors, but is generally found off shore in the floe. It is a fierce fighter, being more rapid in its movements than any other seal in Eastern waters. The main herd frequents waters east of Greenland, where it was formerly slaughtered by Danes, English, and Americans in immense numbers, some five hundred thousand being killed in eight years. The few skins which are taken by the Northern natives are used upon the sledge to bind the load, and when hunting they are spread upon the snow bed beneath the caribou skins to protect the occupant from moisture.

On the 9th we ballasted the Bowdoin for the homeward trip, putting beneath the floor of the hold seven tons of small stones, the very best for this purpose. With two dog teams this was accomplished in two hours and a half; whereas if we had delayed for open water it could not have been done under two days. In the selection of a harbor for winter quarters, one must always consider the availability of good ballast in the spring. Refuge Harbor, with its many other good qualities, was ideal in this respect, because there were tons and tons of crushed rock upon its northern slope within a few yards of the water's edge.

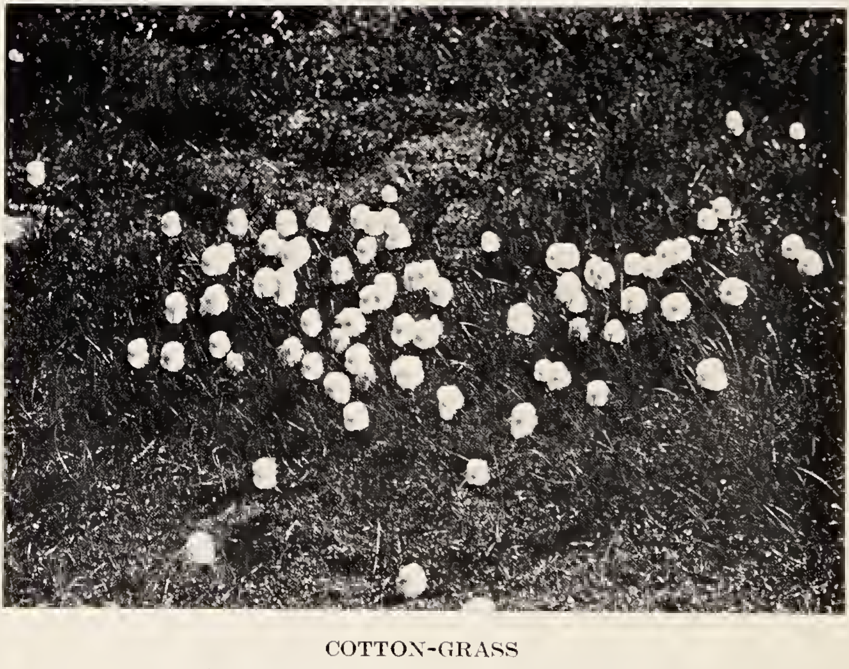
Our last two visitors from the south had reported fresh tracks of caribou in the valley below Cape Hatherton, eight



PURPLE SAXIFRAGE

DRYAS, A MEMBER OF THE ROSE FAMILY

ARCTIC POPPY



COTTON-GRASS
A very common plant in the Far North

miles to the south. On the 12th, Jaynes, an especially good shot with a rifle, and Kah-ko-tchee'a got away with one dog team in the hope of securing for our table some fresh caribou meat. They were back on the 14th with two caribou, a very welcome addition, as this delicious meat is pronounced by some of the men the very best in the North.

The ice was disappearing so rapidly along the shore that I worried a bit over the safety of one of our dories left at Cape Hatherton by McCue and Robinson some weeks before. Jaynes and Mix volunteered to walk down along the ice foot and row the boat back to our harbor. They found her safe and proceeded to launch her from the top of the ice foot, which is not easily done. What was apparently a successful launching, the dory having landed flat on her bottom, was to their consternation followed by an inrush of water which completely filled her! She could not be bailed out, and there she was in an ideal situation for being crushed should drift ice impinge upon the ice foot.

They were in a quandary as to just what to do. Mix suggested that they pull her bow up as high as possible and make her fast to a hole chipped in the ice. He would then slide down on the rope and bail out as much water as he could. They did this, and in doing so discovered that the dory was split practically from stem to stern along the garboard strake. Realizing that vessels are sometimes heeled or listed to keep a hole or a bad leak above water, they sat on the rail and brought the dory home, having plugged the crack with rags as well as they could.

By June 17th, southern slopes were a mass of purple saxifrage, the earliest flower of the Northland. That flowers do grow at all, and as far north as land goes, is a surprise to the newcomer, who forgets that in the Arctic we enjoy a long period of continuous sunlight, that sunlight which is so essential for the growth of all plant life. In fact, there is more sunlight at the North Pole than at any other spot on earth, even more than at the South Pole.

As a result flowers spring up as if by magic even at the edge of snow banks, eager to begin their allotted task of perpetuating their kind before the cold winds and snow flurries of August and September chill and deaden their efforts.

The eminent botanist, Dr. Joseph D. Hooker, states that there are about seven hundred and seventy species of plants within the Arctic Circle. In 1853–55, Dr. Kane collected one hundred and six species of flowering plants in North Greenland. In 1860–61, Dr. Hayes added five or six unrecorded ones to this list. In 1913–17, my botanist, W. Elmer Ekblaw, collected one hundred and twenty-five species of vascular plants between Melville Bay and the Humboldt Glacier. It is of interest to note that many of the plants found in Greenland are found in our country only upon the summits of the White and Adirondack Mountains.

The saxifrage is quickly followed by the buttercup, the golden arnica, the dandelion, the bluebell, the Lapland rhododendron, the woolly cat's-paw, the shinleaf, the andromeda, purple rocket, cinquefoils, Arctic poppy, and several species of the rose family. The poppy is the cheeriest and the hardiest of all, and is found virtually everywhere even upon the bleak summits of nunataks five and six thousand feet above the sea. Were there land at the Pole, it would be dotted with yellow, for this flower would certainly be there.

On the 20th, Robinson and McCue returned from their bear hunt, unsuccessful. In spite of very deep snow off the Humboldt Glacier, they had reached Cape Calhoun and Cape Webster beyond the eightieth parallel. Bear tracks were numerous, both old and new. One bear was seen within two hundred yards, but, owing to deep snow, pursuit and capture were impossible.

Peabody Bay was a chaotic mass of table-topped icebergs, large in area but inferior in height. The sea ice was of such a character as to lead my men to infer that it had remained there for years. The surface of old ice is extremely irregular and is as billowy as the ocean. This is caused by successive melting and freezing of annual snowfalls and is the 'glacial fringe' of Peary and the 'paleocrystic floe' of Nares. The deep bays and shores of both North Greenland and Grant Land are filled with it. My observations lead me to the belief that only in unusual years and under special conditions are those bodies of water clear, and when they are clear the ice therefrom drifting down into the North Atlantic is of an especially menacing type, being low, flat, hard as flint, and well-nigh invisible at night. The year of the Titanic disaster (1912) was notable for the prevalence of this type of berg.

On June 23d, Goddard closed his observatory after eight full months of observations upon the earth's magnetism and atmospheric electricity. I am assured by Dr. Louis Bauer, Director of the Department of Terrestrial Magnetism at Washington, that these are to be of the utmost value to scientists in their study of this important subject.

On the 24th, a prolonged yell from the mouth of the harbor announced that something had happened. We placed our dory upon a sledge and rushed to the water's edge. Rowing out among the scattered pans of ice, we soon descried Kah-ko-tchee′a and Koo-e-tig′e-to vigorously at work in the twelve-foot steel boat, towing a huge walrus. With their eight-millimeter rifles they had attacked a herd, killing two, but as they had only one harpoon they could secure but one. This animal rarely floats when killed and must be harpooned before it ceases its struggles, else big air bubbles denote that the game is lost. The natives of the west and south coast of Baffin Land for this reason never shoot to kill, but to wound. The walrus, tired with its efforts to keep afloat, seeks the surface of a pan of ice, where it is harpooned from a large boat. They apparently lack courage to harpoon such a formidable animal from their light kayaks as do the Smith Sound natives.

Of late we had been anxiously watching the calendar. The eider ducks must be laying their eggs on Littleton and Eider Duck Islands, ten miles south. On the afternoon of the 25th, Kah-ko-tchee′a, Koo-e-tig′e-to, Bromfield, and I left Refuge Harbor for a quick run down and back. With three pairs of oars we covered the distance in a very short time. One incident on the way was of interest. Passing along close to the shore, I was astonished at the size and the beauty of a patch of purple saxifrage. As I examined it more closely, I discerned a snow-white spot in the midst of the flowers. Milky quartz, I surmised, and a good specimen! 'Shoo-nau-na?' ('What is it?') I inquired. Imagine my surprise at the answer, 'An Eskimo skull!' Further inquiry as to why he should be especially favored by resting on a bed of beautiful flowers brought the information that the man was killed there by a polar bear, which ate the body, leaving the skull with its sightless eyes to look upon the waters where it had loved to hunt. The dead Eskimo in his rock tomb, wrapped in sealskins, and bearing upon his breast the beautifully fashioned nest of a snow bunting, instantly recurred to me; death hand in hand with new life.

The ice foot surrounding Eider Duck Island presented its familiar impregnable front as usual at this time of year. Only at one place were we able to surmount it.

A whirring of wings over our heads, a passing and repassing of the brown bodies of the females, the black and white of the males, indicated that the birds had discovered the marauders, as I acknowledge we were. A few minutes' search confirmed what we had all suspected; the island had been visited by Etah Eskimos. But although all eggs, as we afterwards learned, had been gathered upon two different occasions, we collected about a thousand. I picked up three hundred and twenty, and each Eskimo boy declared that he had as many if not more. McGary's Rock off the western end of the island was alive with glaucous gulls and eider ducks. This we did not visit, feeling that we had enough for the present.

As we finished gathering, Ak-kom′mo-ding′wa and Noo′ka-ping′wa arrived from Etah in their kayaks. They had come to collect what the birds had laid during the last two or three days, and felt quite chagrined upon discovering us already on the island. It was their intention to 'corner' all eggs and later trade with us for tobacco. Wall Street at the North Pole! To console them over their loss, we invited them to go to the ship with us, assuring them that our boat was going to Etah within a few days and they could return in company with the party. We reached the Bowdoin at four in the morning, having really enjoyed the twenty-mile row.

Another trip was planned at once. Goddard had finished his work. Mix could get nothing from his wireless, since we had bright sunlight day and night. Jaynes wanted to try some ducks on the wing. The Eskimos and their wives wanted to visit Etah and net little auks. The party got away on the 27th, our little steel boat with outboard motor towing an old boat belonging to Panikpak. One boat was really necessary to carry the ammunition! If all of this was used and with each cartridge its bird brought down, could we ever eat the ducks!

On Tuesday, July 1st, we decided to try for narwhal and white whale, which frequent the edge of the ice extending from Cairn Point to Cape Sabine, possibly awaiting an opportunity to proceed northward through Kane Basin, Kennedy and Robeson Channels to the Polar Sea. We had no sooner passed Cairn Point abeam than a rounded back of a white whale was seen cutting the surface of the water some three hundred yards distant. Noo′ka-ping′wa and Ki-wee′a shot their kayaks ahead of our dory and, with lines carefully coiled and harpoons ready, waited quietly for the whale's reappearance. As the whale emerged to blow, both boys darted ahead and ranged along his side. The harpoons were in the air together. I thought that each had scored a hit, but one rapidly moving float, that of Noo′-ka-ping′wa, told the story. To my surprise the whale sounded and remained deep down for several minutes, when I rather expected a mad rush for the center of the straits. And when she came to the surface she swam around in a big circle in a rather leisurely manner seeming to lack the energy of a harpooned walrus. She was easily dispatched with my 405 Winchester. A hard pull with three pairs of oars brought her to the edge of the ice at the narrows of Refuge Harbor. Here, with an improvised tackle of rawhide reeved through holes cut in the ice and through slits in the blubber, we pulled her to the surface of the ice. The fat was soon in our big copper kettle, heating over a wood fire on the beach — oil for the Bowdoin's engine to help us on our homeward trip. In the selection of an engine for Arctic work, I had this very object in view — whale oil for fuel if need be. A test later by my engineer gave perfect satisfaction.

The white whale is commonly known as the Beluga, from the Russian, signifying white. Scientists now recognize but one species, although twelve or more have been classified and named. The mother may be mottled, yellowish, or white, according to her age; the young is a dark slate in color. It is of interest that the Greenland natives some years ago regarded the white whale as the wife of the narwhal! This animal is not exclusively Arctic in its range, as has been stated. Specimens have been seen and secured as far south as the Maine and Massachusetts coasts, but never in great herds as in the North, where five hundred and more are often seen at the mouth of salmon rivers and even in the river itself. They are from sixteen to twenty feet in length and lack a dorsal fin. The most marked peculiarity of this species is the presence of a real neck, which gives it a peculiar appearance. The sailor's name, 'Sea Canary,' is applicable, for a whining sound is easily discernible especially when the hearer is down in the cabin of a ship.

In the Far North the white whale is likely to follow the coast line closely, going in and out of all bays in search of the trout, which issue from the lakes with the first rush of water in the spring and cruise along the shore in shoals. Its cousin, the narwhal, is more numerous about Smith Sound and Kane Basin and more interesting because of the spiral tusk of the male, which is really an enlarged maxillary tooth from six to eight feet in length. This horn, always twisted from right to left, is peculiar to the male. Two horns are not uncommon, but they are generally of unequal length. Just what their function may be is a matter of conjecture. The natural conclusion would be that it is used as a weapon of attack in battle with rival males or with walrus. I have watched them by the hour leisurely crossing tusks and rubbing them over the backs of the females. There is another possible explanation that might deserve further consideration. We found halibut in the stomach of the narwhal. Any boy brought up on the water knows how easily flatfish can be speared. Do narwhals spear halibut? The tip of the tusk is always smooth and frequently broken. The spiral would tend to revolve the fish up the tusk as the narwhal swims through the water, thus enlarging the wound, and also fastening the fish more securely in his struggles to free himself. A release of water pressure and a shake of the horn would easily dislodge the food from such a tapering tusk. The most serious objection to this theory is that Nature has favored the male only with this hunting implement.

On the 2d the men arrived from Littleton Island with one hundred and twenty-six eider ducks. The additional number killed by the Eskimos and eaten by the party in camp would bring the total to about two hundred in all.

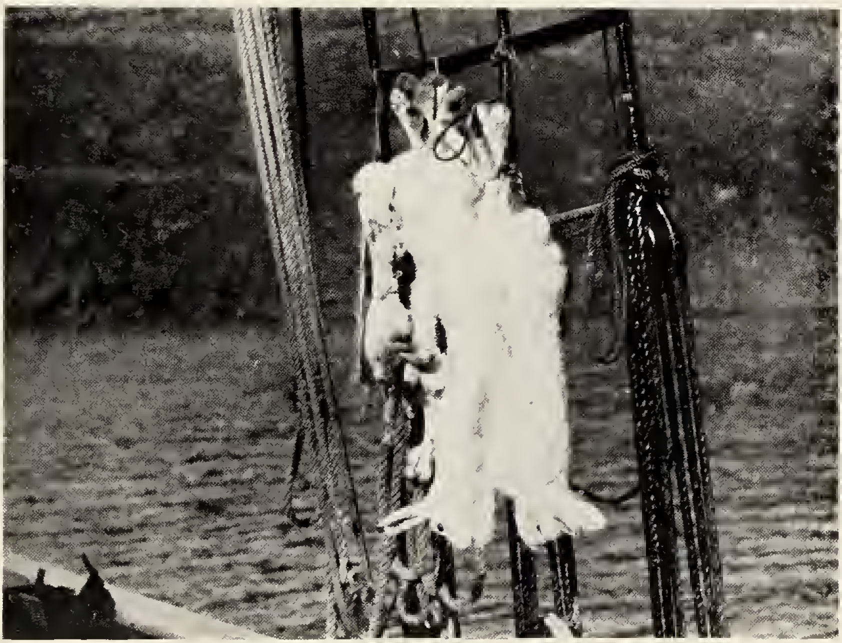
We immediately placed these in cold storage for Sunday dinners from that time until our arrival home.

On the 5th, Robinson, Kah-ko-tchee'a and I left in our thirteen-foot dory for Eider Duck Island and Etah. With a good breeze we ran down to the island in one hour and thirty-five minutes, reaching there on the dead high water and consequently at a favorable time for landing on the troublesome ice foot. The wind was so strong that we thought it best to stay for the night. Within a very short time we had collected two hundred fresh eggs and were listening to the sputter in the frying-pan. Young eiders and young glaucous gulls were found at every turn, the latter waiting to be fed upon the former by their parents, wheeling and darting over our heads.

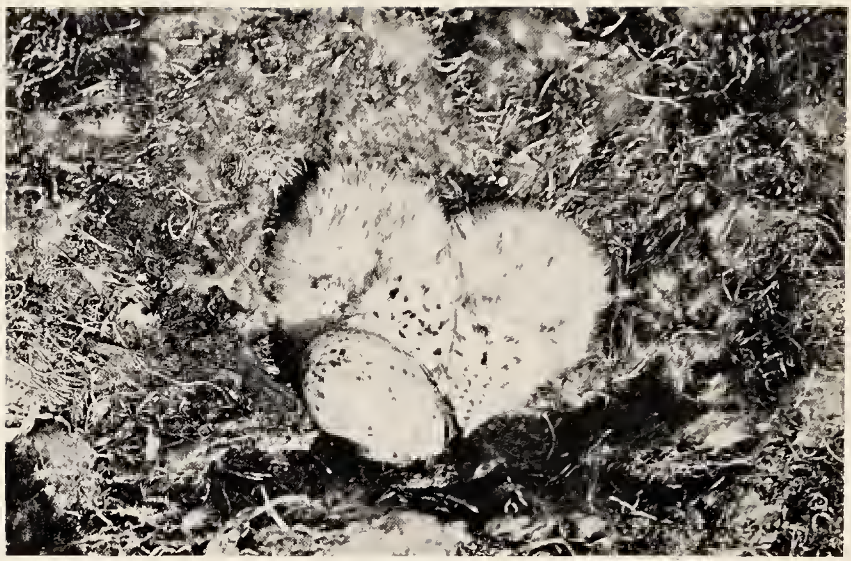
The burgomaster or glaucous gull (*Larus hyperboreus*) leads a life of ease and plenty during the summer months. He leaves his diet of dead fish in the South and goes North to become a bird of prey and feast upon live game, the dovekie and tender young eiders. And how easily his food is secured! The ducks are often within a few feet of his nest and the air is black with a swarm of dovekies.

The weather was so threatening the next day that we moved our tent to higher and drier ground, fearing a wet summer snowstorm such as we had experienced here in 1916, when both ducks and ourselves were snowed under. But our fears were dispelled the next morning, a perfect day with bright sunshine. Before setting sail for Etah, we rowed over to Hans Island, named by Dr. Kane in 1853 for his South Greenland Eskimo assistant, Hans Hendrick. The ledge — for it is nothing more — was bestrewn with the scraggly-looking, abandoned nests of the glaucous gull. The young had gone out into the world and were hiding in cracks in the rocks and running along the ice foot looking anxiously at the sea which they knew instinctively to be their refuge. Two or three nests of half-hatched eider chicks testified to the stupidity of mothers who would

A WHITE WHALE



ARCTIC HARE FOR DINNER!



NEST AND YOUNG OF THE BURGOMASTER GULL

YOUNG OF THE BURGOMASTER GULL

attempt to rear their young in such a hostile environment.

With a fair wind we ran along the south shore of Littleton Island amid a steady stream of eider ducks startled from their nests, and squared away for Sunrise Point and Etah Harbor. The fiord was still fast in winter ice. Landing on the edge, we unloaded our dory and pulled her over the ice for a quarter of a mile to a safe place on the land west of Provision Point. No boat is safe on harbor ice at this time of year. A southerly wind, a slight swell, a shift of wind, and away everything goes to sea. Boats are numberless which have been lost in this way.

A young seal basking in the sun encouraged me to attempt a 'close-up' with the motion-picture camera without the aid of a screen. Kah-ko-tchee'a, with his rifle and I with the camera, walked up within thirty yards. We both got him. To get him in the camera and to have him always is so much more exciting than killing him with a rifle! For me there is no comparison between the two kinds of 'sport.' The camera requires far more skill and patience.

We now dispatched our Eskimo to the head of the fiord to summon Ak-kom'o-ding'wa and his dog team to help us with our equipment over the harbor ice. Robinson, who was acting as cook of our little expedition, went in search of something for supper. The frequent banging of his twenty-gauge shotgun testified to an abundance of something. He soon returned with a number of black guillemots (*Cepphus mandti*), commonly known to us as sea pigeons. He had averaged two and even three to a shot.

This hardy bird is the sprightliest one of the North; hardy because it prefers to remain with us during the dark winter night when freezing spray is whipping across the surface of the Sound; and sprightly because it demonstrates in every bodily movement that living is pure fun. A whir of white-patched wings, a spreading of two crimson webbed feet, a happy-go-lucky belly slide and 'I'm here' look, identifies this fellow at once.

Where was Jimmie, as we familiarly called our Eskimo? We became impatient at his delay and started along, having placed our goods well back from the edge of the ice, which was constantly breaking off and drifting southward under the influence of the warm sun. A few minutes' walking revealed the reason for Ak-kom′mo-ding′wa's non-arrival. The ice was intersected by leads in all directions. There was a détour at every corner and some between leading back into the original! We ran so far and jumped so often that we felt we could win any intercollegiate track meet were we given the opportunity to compete.

Disgusted and out of patience with such an Etah reception, Robinson gained the land at the site of our old house, where, attracted by the beauty of great beds of flowers, he lost all interest in our progress up the Bay. Yes, we can jump right off the ice into a bed of beautiful flowers in that country. I kept on up the fiord wading and jumping lanes or leads of water.

Here we met Ak-kom′mo-ding′wa and his dog team bound down. Jimmie had arrived at the Eskimo camp and had notified our savage friends of our arrival. An hour later, I reached the tent and found our old housekeeper and her three children. Noo′ka-ping′wa, who was now visiting at the ship, was her youthful husband. A pretty South Greenland costume, consisting of shiny sealskin pants, bead collar, and red boots, caught him, and he has been trying to swap her ever since. He declared he would have succeeded had the minister not arrived with modern ideas, which are a bit too ethical for primitive man. He figured that if he remained away from home and did not talk when he did go home, she might then swap herself!

We-we, with true hospitality, served us with strong Danish coffee and boiled little auks. And what a change she had made in our old igloo! No longer frozen junks of walrus meat as a floor, but new cut sod from the hills. The bed was covered with new grass; the walls with dressed sealskins; the broken pane of glass was replaced with translucent skin; the entrance was free of cans, bottles, and bones, and yet her husband did not appreciate his home!

In contrast to this was Ak-kom′mo-ding′wa's threadbare white man's tent inhabited by himself, a man of sixty, and his third wife within six months, a girl of sixteen or seventeen. Rumor was rife that he had stolen this girl. There must have been sufficient motive for the crime. I expected to see a beauty. One glance convinced us that the old man was losing his mind or at least his judgment. No one would ever steal what we saw unless he did it in the dark!

The bridegroom soon arrived, wet above his knees, covered with sweat, and with only half the load. We had brought the necessary camp equipment, such as our tent, stove, etc., but had left on the harbor ice, more than a mile away, the really valuable things, which exceeded two thousand dollars in value! A fifty-cent coffee pot was of more value in his Eskimo eyes than a fifteen-hundred-dollar camera — a striking illustration of the current definition of value, yet easily comprehended: there was potential happiness in the coffee pot; nothing in the black box. The old man is practical.

We invited all the inhabitants of the village, six in all, to our tent for tea and biscuit, both highly appreciated if milk and sugar are in stock. Jimmie promised to return for the valuables; therefore, we slept soundly.

One object of our trip was to secure, if possible, specimens of trout from Alida Lake at the head of the fiord. These were especially wanted for Dr. W. C. Kendall, of the United States Fish Commission of Washington. The Eskimos told us that the fish had already gone down the river into salt water; consequently I feared that we were too late. Nevertheless in the morning we journeyed to the head of the fiord with fish spears, hooks and lines. One glance at the river confirmed our fears. Not a trout was to be seen. Quite a number were still in the lake between the edge of the ice and the shore, but they refused bait. A blue fox in the vicinity was as anxious to secure a specimen as we were, and perhaps was more fortunate.

The next day we turned our attention to the million or so dovekies swarming on the talus slope back of our tent. The number of these little birds cannot be exaggerated. I believe we have here one of the sights of the world, certainly so to a lover of Nature. Under certain lights they resemble nothing so much as a gigantic swarm of bees. When they wheel with their white bellies toward the sun, we have an exact reproduction of a thick snowstorm of gigantic flakes. The volume of notes issuing simultaneously from so many throats resembles the roar of a waterfall, but it is much more musical.

This bird (*Alle alle*) arrives in the North about May 15th, and remains until September 15th. Its breeding ground extends from Cape Melville in Melville Bay to Anoritok. This distance of roughly three hundred miles is interspersed with rock débris, which has fallen from the cliffs above, and which is fairly alive. The bird is small, being only eight inches in length, but very chunky, weighing about four ounces. Small as they are, they have often been a Godsend to the native when seal and walrus meat were lacking. The bird net begins to swing in May and continues to do so on fair days throughout the summer. Thousands are eaten, raw and cooked, and thousands more are cached under the rocks for the winter night. It is but a drop taken from the bucket. The flock continues to wheel and dip and swing low along the slope with never a thought of those that are gone.

Fortunately the birds lay but one egg, else the waters and cliffs of the North would be congested. Even with one each, this would be so if the Eskimo were the only enemy. True, the glaucous gull, the raven, the white gyrfalcon, and the harp seal exact their tribute, but even this is infinitesimal. Nature must feed them in large numbers to unknown enemies in the sea or destroy them by disease or violence of winter storms in the open waters south of Baffin Bay during the winter months.

As a boy I found dovekies, emaciated and starving, tossed up by the rollers on the back shores of Cape Cod and conjectured as to the home of this little wanderer, which came to us only during the stormiest days of winter, as if needing shelter. Fishing vessels in the winter time, report them dead upon their decks on the stormy Georges and other cod banks. Old Ocean, in her angriest moods, undoubtedly is this bird's chief enemy, killing an incredible number each winter.

With the Eskimos we visited the cliffs and watched Kah-ko-tchee′a swing the dip net into the flocks as the birds swept over his head. Twice he caught two with one sweep; many he knocked out of the flock into the rocks to be scrambled for by the children, who were busy searching and reaching for eggs.

Overhead the big white burgomasters sailed back and forth along the face of a thousand-foot cliff as if a bit resentful of rivals in the field. The whole fiord, bathed in warm bright sunlight, vibrated with the whirring of wings, the increasing and diminishing musical note of myriads of birds mingling with the sound of falling waters and the happy laughter of Eskimo children. Summer had come, and was witnessing again the reawakening of the North from its deep sleep of cold and darkness. Each year these native children have gathered here on these same rocky slopes, confident that Nature would not forget them and would furnish an abundance. May she always fulfill their trust!

In the evening, as we sat about our tent talking of the incidents of the day, two strange dogs appeared in camp, each with his trace wound carefully about his neck. One was instantly recognized as belonging to Oo-dee, the son of We-we, and the other that of Koo-la-tinah, both now living at Ig-loo-da-houny, fifty miles distant across the ice cap of Prudhoe Land. Oo-dee had promised his mother that he would come to Etah to help her. We started at once along the ice foot toward the glacier, knowing that the men, upon their arrival at Alida Lake, had slipped their dogs and were walking toward our camp.

We soon met Oo-dee and his wife, both with their tump lines and heavy packs. Oo-dee had borrowed one of Koo-la-tinah's dogs; hence our conclusion that both men had arrived. Oo-dee was plainly tired with his long trip over the ice cap, but the young wife, fine-looking and straight as an Indian, was hardly breathing with her exertions. It was hard for me to recognize in this woman the little girl I had known so well eleven years before. Her inherited qualities were very apparent. Her mother, Nelle-ka-tee-a, the 'Amazon,' was the largest and strongest woman in the tribe. We-we was now happy. Her real support, her only son, had arrived.

So we must, although we did not relish the task, get our equipment back to our boat. Ak-kom′mo-ding′wa and Kah-ko-tchee′a thought it could not be done on the sea ice without wetting everything, and suggested that we carry it along the ice foot for a distance of two miles — a disheartening proposal. Robinson and I both had hip rubber boots; therefore we preferred the dogs and sledge and the harbor route. There were times when it did seem impossible, but we finally reached Provision Point and there traveled along the ice foot to the dory.

We placed the sledge on the land, where it would remain until fall, wound the traces around the necks of the dogs, and started them toward home, and with two pairs of oars were off for Littleton Island. Rounding Sunrise Point, we set the sail and were soon picking up our egg cache on Eider Duck Island. We rounded the northeast end of Littleton Island and camped for the night, with the ducks whirring over our heads and a stream of little ones led by their mothers going down off the island to the ice foot and thence into the sea.

I watched one family of six. The tide was low. The ice foot was seven feet above the shore rocks. How would she get her chicks into the water? She flew into the sea, turned and began to call. The little ones lined up like so many soldiers, hesitated for some minutes, for that was a fearful leap. They hopped off into the air and trusted that mother was right. Five reappeared from under the ice foot and swam proudly off behind their parent. Where was the sixth? I hastened down from the tent, walked along in under the overhanging ice shelf, and found what I expected, a downy dead chick, soft and warm. The little fellow lay on his back with a broken neck. He had attempted the jump in obedience to his mother's call and had failed. That five had succeeded was the marvelous thing.

One family of three within a few feet of our tent door scurried for sheltering cracks upon our arrival and lay flat upon the rock with outstretched necks feigning death. Before we left camp the next morning they were pets. They followed at our call, snuggled in our laps, against our breasts, and perched upon our forearms. As we sailed away we could hear their cry and saw them vainly endeavoring to follow us along the shore. I hope that their mother found them.

Upon our right hand was Polaris Beach, where the U.S.S. Polaris was beached in 1872 in a sinking condition following a bad squeeze off Littleton Island. The ship was abandoned and later drifted from her position and sank between Littleton Island and the mainland. The men constructed a dwelling-house from parts of the ship, lived here during the winter, built two boats in the spring and retreated south. We landed to see what might remain after fifty-one years. The site of the house was littered with bits of wood, coal, glass, nails, screws, door locks, ringbolts, and mast fittings. One brass door button alone was marked 'U.S. Navy 1870.' I had previously picked up many relics here marked 'Washington Navy Yard, 1870.' We marveled at the state of preservation of what was left after so many years, and especially at the lack of rust, a testimonial to the dryness of Arctic air.

Kane Basin was breaking up. Large fields of ice were working down past Cairn Point and Cape Sabine and were even threatening to cut us off from the ship. We worked through the edge of the pack to Cape Hatherton and on into open water, pulling against a strong wind and through several herds of walrus. As we approached the entrance of Refuge Harbor, we noted that every prominent point was surmounted with a chaotic mass of broken floe ice. It was plainly evident that there had been a tremendous pressure here during our absence. When thousands of tons of ice are forced over the ice foot and some forty feet into the air, it is not difficult to understand how a puny little ship is crushed flat. This eternal conflict between the ice pack and the Northern rocky shores must result in a tremendous abrasion through the centuries. Nowhere as in the North is it so evident that the land is giving way to the sea. The sea ice is wearing away the coast line; the glaciers are abrading the valleys and cutting off the tops of the hills; freezing water and the sun's rays are cracking off the face of cliffs — all going into the sea. What will be the result? Can old Earth keep its head above water? Old Ocean is plenty large enough and deep enough to hold all and perhaps in distant æons will. Fish will come into their own again! But we are actually astounded by the fact that the total amount carried to the sea each year from the United States is approximately 210,000,000 tons of dissolved matter and 513,000,000 tons of suspended matter! The Mississippi alone carries to the sea annually 113,000,000 tons!

As we walked into the harbor we noticed that the Bowdoin was turned partly around indicating that she had broken out of her ice cradle after her imprisonment of three hundred and seven days. But she was by no means free yet. The harbor was still covered with ice, and there yet remained a quarter of a mile between her and open water.

Although there are statements in various books to the effect that salt-water ice freezes in the North to a thickness of nine and ten feet, our own observations at Etah and Refuge Harbor for five years have shown that never has there been a thickness of more than six. It is true that our temperatures were not so low as have been reported from the Hudson Bay district. Thickness of ice depends upon temperature, upon the thickness of its protective blanket of snow, upon prevailing winds, and upon rate of tidal movement or current below. In fact, there are several places to my knowledge, even at the heads of bays, where the sea water never freezes and other places where it seldom does.

A ship freezes in at her water line. The ice freezes downward. With the return of spring the ice melts from the top, but very little, if any, from the bottom, owing to the fact that the temperature remains constant at about 29.2° F. The interesting result follows that as warm days come we find our home rising above the level of the harbor ice. If ice continued to freeze and the summers were not warm enough to melt the ice, eventually the ship would rest on top of the ice and thus be free of all pressure. Some years ago, in fact, a well-known explorer advanced this theory in connection with a proposed drift across the Polar Sea. It was a theory that would not have been substantiated; for even in the Polar Sea a ship melts out each year and settles down to her water line. This is due to heat radiated from the body of the ship and also reflected from her sides.

To this latter result may be attributed the hastening of the disappearance of harbor, bay, and fiord ice. Heat reflected from the hillsides and shore line and ice foot causes rapid melting of all ice contiguous to the land, and so diminishes the area of the surface ice that it floats away on the high tide. This one-year ice never reaches the South. It is so honeycombed and thin that it easily breaks up with pressure or swell. The most troublesome ice for the navigator has its origin in the Polar Sea, and is the result of several winters' freezing, augmented by annual snowfalls, ultimately attaining a thickness of thirty and forty feet!

There are bays in the Far North also from which the ice goes out only under most exceptional conditions, possibly not oftener than once in ten years. Such present the appearance of a rolling country — a succession of blue icy hillocks. The ice of Smith Bay, Markham Fiord, James Ross Bay, Disraeli Bay, and Flagler Fiord is of this character. When finally released, such a sheet is a real menace, for it is hard and flinty in character, low-lying on the water, and at night in low latitudes is difficult to detect. With the increase in the number of active glaciers in the North, ice navigation in those waters will present more serious difficulties in the future.

CHAPTER XIV

BREAKING OUT OF WINTER QUARTERS

With our seventy dogs to feed it was necessary to keep after meat, either seal or walrus. Jaynes, with a few of the Eskimos, had succeeded in killing several from the small steel motor boat. The exhaust from the engine did not seem to alarm them as one would naturally suppose. On July 14th, our flotilla, consisting of the motor boat, a dory, and two kayaks, left for Cape Hatherton on a walrus hunt. All through the summer, herds frequent the shoal ground between the Cape and the mainland for the clams which are to be found here. Two clams, known to science as *Saxicava truncata* and *Saxicava rugosa,* constitute their principal food. Although we have found in their stomachs pieces of sealmeat and sealskin, it is difficult to understand from a study of the mouth how a walrus could eat seal if he should ever succeed in capturing one.

We found a good-sized herd near the Cape feeding upon the bottom, appearing and reappearing at intervals of eight and nine minutes. In attempting to encircle them in order to have the sun at our backs for pictures, we started them off shore, breaking the herd into three parts. It did not seem possible that the little Elto motor, pushing one boat and pulling another and two kayaks, could ever overtake them. Jaynes, however, was loyal to his engine and suggested that we keep at it.

Walrus swim at about six and a half to seven miles an hour. Those in our herd were apparently doing their best with white water about their necks and frightened backward glances. At times we lost and then again we gained a bit. Noo′ka-ping′wa, becoming impatient at our slow progress, decided to try his kayak. To my astonishment he proceeded to get into his frail craft, with our engine at full speed, and motioned for us to cast off! Nothing could have been easier. He shot astern in perfect safety, grasped his paddle, and passed us! When the walrus emerged, he dug furiously in the water with his paddle, seemed to shoot up almost onto their backs, threw his harpoon, and — missed! We passed him breathing hard and with his dark brown face glistening with sweat.

We persisted in the chase. Each time the walrus appeared at the surface, the Eskimos shouted and shot their rifles to frighten them down, giving them no time to breathe, and thus quickly tiring them. They were now within range. E-took'a-shoo, in spite of the vibrations of our motor boat, shot one dead through the head. Luckily he floated. They seldom do unless the head is knocked under water, thus retaining the air in the lungs. As we shot by, Jaynes reversed the engine, giving E-took'a-shoo the fractional part of a second to grasp his harpoon from the seat and hurl it across the bow of our dory lashed to the side of the motor boat — good work on the part of both.

We tossed the inflated sealskin float into the water and started on after a second, wounded by Ki-wee'a. Within a few minutes the motor placed E-took'a-shoo within throwing distance. We now had two. Picking up the float, we allowed the walrus to tow us for some distance, when finally two of the Eskimos jumped onto a pan of ice and played him as a fisherman would his salmon. Twice the walrus turned deliberately and endeavored to get upon the pan, evidently preferring a mix-up to a running fight. I was curious to know what would happen if he did get on the pan. From what I have seen, I should judge a walrus to be incapable of a quick motion of any kind out of his natural element — water. Given a twenty-foot pan of ice a man should be able to keep clear of the most active walrus.

When the Eskimos had killed the animal, they chipped holes in the ice and cut slits in his neck. Through these they rove their rawhide lines making a double purchase, and easily pulled the sixteen-hundred-pound animal out of the water onto the surface of the pan, where it was cut into pieces convenient for handling and caching.

We now repaired to Cape Hatherton, where each Eskimo constructed his cache for a projected bear hunt the following spring, when walrus meat is taken on their sledges for dog meat. I was interested in finding here one of our opened pemmican tins and an empty biscuit box of our expedition of ten years ago, a reminder that some of my men had camped here in their travels.

Up to this time Smith Sound had been free of ice. One might easily have crossed to Cape Sabine in a dory or even in an Eskimo kayak along the edge of the fast ice of Kane Basin, which is locked in by the converging of the shores of Smith Sound. The ice now began to break up and drift south in great sheets, a constant menace whenever we ventured forth in small boats.

On the 17th, E-took′a-shoo, Bromfield, and I rowed to Anoritok in our dory in open water, but upon returning our way was intercepted at Cairn Point by a mass of revolving pans and sludge. Since a high overhanging ice foot prevented a landing with the dory, we determined to go over it, which we did by a series of rushes, fearing a rafting against the Point which would result in a loss of our best boat.

The next day, under the influence of a southerly wind, ice was driving rapidly to the north. At night scarcely a drop of water could be seen. Our way home was completely covered. On the 19th, the ice had driven north and west with no addition from the south in spite of a strong southerly wind, which forced me to the conclusion that there could be no ice in Baffin Bay, wonderful to relate. It was evidently an open year, such as occurs possibly but once in ten!

I was anxious now to take advantage of this and proceeded at once to get the Bowdoin out of her winter quarters. It continued to blow hard from the south, as in fact it had done nearly all of July. On the 22d we sawed out a large section of the harbor ice, which was two feet in thickness, and pulled the Bowdoin nearly up to her large anchor. On the 23d it alternately rained and snowed all day, with terrific squalls that swept waterfalls backward and upward resembling a column of smoke or steam from a volcano. At sight of this phenomenon we were at first thoroughly mystified and very much excited. Even our Eskimos, who could give no explanation of this strange sight, feared that something awful was about to happen. Finally it dawned upon McCue that the ascending column was spray blown by the wind!

For the next five days we pushed rafts of ice out of the channel alongshore by which we hoped to escape — ice which had been naturally broken by the pressure of the harbor ice against the land.

On the 29th, we went out for our last walrus hunt in our small motor boat, hoping to secure some 'close-ups' of the herd. We got them! One large female came right aboard, hooking her two tusks over the rail within the three-foot limit of the lens and spitting blood into the camera case!

After killing two, as many as our little boat could conveniently tow, we decided to tie them to a large iceberg and call for them later in the Bowdoin.

At seven o'clock all tents were down and Eskimos and dogs aboard. At nine we left our anchorage, and proceeded cautiously around the edge of the harbor ice. Within a hundred yards we were aground. We were afloat, however, within a few minutes on the rising water. Under the influence of a southerly wind the harbor sheet of ice was now pressing against the northern shore. Could we get by? With McCue in the rigging to note the depth of water and with me at the wheel and in reach of the engine-room bells, we proceeded cautiously along the edge of the ice.

In attempting to skin by a projecting point of ice, we grounded with the edge of the harbor ice scraping our quarter. Soundings for'ard and aft indicated plenty of water. The vessel was hung up amidships. We tried various devices to free her from the rock, but all to no purpose. She had grounded on the tip-top high water, which was now falling and would continue to do so for about nine feet, which meant that she would be 'high and dry' in six hours. If she was on a rock, then she might fall over on her side to such an angle that she would not float, but would fill with the rising of the tide. If her keel was in a crack in the rock — and everything pointed to that conclusion — when she keeled over she would twist her keel completely out of her. These were anxious moments for me, responsible as I was for the safety of my seven men three thousand miles from home and with insufficient food for another winter.

We promptly ran masthead tackles to the shore and harbor ice from both starboard and port sides in an attempt to keep the Bowdoin upon an even keel. This was an especially difficult task, since on the port side we were attached to a floating object, the harbor sheet, which was continually changing its position laterally, on account of the current, and vertically being affected by the falling water.

With a level on the after cabin house I anxiously watched the bubble slowly shifting as the water fell away, the bow ever rising higher and the stern sinking lower. I expected at any moment to feel the tremble of a ship about to be launched and see the Bowdoin slip backwards into deep water. The rock supporting the keel was now bare. With McCue I had already made an examination of the injury done and was standing directly aft on the ice lining up the masts for the angle of the keel, when we heard a faint snap and realized that she had already started to keel off shore into deep water.

The men below were aware of the danger and came running up on deck. Lewis, our cook, a man of sixty years of age, and Bromfield, our Labrador interpreter, with a crippled hand in a sling, had just lowered themselves over the port quarter to the surface of the harbor ice beside me when with a crash the Bowdoin fell on her side, burying her whole lee rail beneath the water. The air for the moment seemed to be filled with débris of every description — buckets, boxes, skins, tent-poles, oars, barrels, clothing, and men scaling like flying squirrels.

Robinson had just emerged from the after companionway when the Bowdoin started. He made a wild grab at the binnacle as he shot by, missed it, and made a flying dive over the rail into the icy water. Jaynes was standing on the starboard or high side. He declared that the ship left him in the air, and there was nothing to do but fall, which he did nearly to the bottom! Mix and Goddard threw their long legs over the rail and clutched as a bronco buster would his steed.

Both swimmers made excellent time across their respective pools, Robinson using a combination breast trudgeon stroke which lifted him high out of water with each grab. He was taking no chances of the ship falling on his back! Jaynes knew that he was safe, but the water was a bit cold — two degrees below freezing.

With the men safe, we began salvage operations, rushing two boats to the partly submerged deck and feverishly transporting to the harbor ice everything in sight and much even from below decks. Every pound removed would be so much less for the Bowdoin to lift on the rising water.

Our cabins were a sight to behold! Books, ink-bottles, cameras, ledgers, pencils, clothing, bottles, field-glasses, stuffed birds, eggs, rifles, chewing-gum, candy, talking-machines — all a confused jumble! An earthquake need not have been envious of results. To go below made one fairly seasick. Our sense of balance was all askew. Hanging objects stood out straight in the air with nothing to support them. Our companions were certainly unreal. How could they stand that way without falling! We were glad to get out onto the level ice again.

Would the Bowdoin rise? that was the very important question. Some of my best men declared she wouldn't. In falling the ship had broken a plank on the port side, which increased the seriousness of the situation. Knowing how easily she had attained an even keel in Baffin Land two years before, I felt confident that she would do so again. As a wise precaution, however, we closed all portholes tightly and calked the doors of our after companionway.

On the flood tide every eye watched the water creep up the side of the Bowdoin, into the scuppers and over the rail and up the deck a few inches, and then stop! The Bowdoin was rising and continued to do so until she looked us again square in the face, as much as to say, 'Here I am ready for business, regardless of the hole in my stomach!'

Relieved of such a large part of her load, she would have come off on the next high tide had it attained the same height as the night before. Unfortunately it failed to do this by at least eighteen inches. We were there for another twelve hours! Fearing another puncture, I decided to keel the Bowdoin toward the shore, resting her bilge on a bed of rocks revealed by the previous low water. The angle of heel was such on the ebb tide that we were very comfortable on board, being able even to cook and eat in our forecastle, which was impossible the day before.

At the moment when we were feeling very secure in our position and happy in the thought that no further damage could be done, she slipped and fell several feet into a new bed, breaking two more planks. Knowing how she was built, her bottom a solid bed of cement, and also the capacity of her two big pumps, I felt she was still a good ship.

On the next high water she gently floated off herself, as if saying, 'Let's go home.'

In two hours we were reloaded and ready for another trial the following day. On the following low water I made a minute examination of every step of our journey to the mouth of the harbor, noting the exact location of every shoal and rock. Engine power alone was risky, since sharp corners could be turned more gently and more cautiously by warping. With bow and stern lines in charge of Robinson and Goddard, assisted by our four Eskimos, the Bowdoin turned all corners nicely and reached the harbor mouth in twenty minutes.

As we were loading on the last few of our seventy dogs, the evil spirit of the North decided that we were having too easy a time. It closed the door and barred our only exit with a gigantic square of ice — some 9,300,000 pounds, a trifle too heavy to allow the Bowdoin to nose her way out, especially against wind and sea. This door fitted so nicely that an Eskimo kayak could not have squeezed through.

Put on a record, sing something, and think of other things! This we did, but it did not start the door. Here we were looking like a load of hay with our eleven Eskimos, their sledges, their kayaks, all their personal belongings, and seventy dogs on deck, all ready to go, but there was nowhere to go!

In the olden days they sawed ships out of winter quarters. No sooner thought of than attempted. With the four Eskimos I examined the harbor ice on one side of the 'door.' By sawing through a neck for some fifty feet I decided that it might be done. We would not saw completely through, for the door would then fill the aperture instantly, but, leaving it partly attached, I would then buck it with the Bowdoin, crack the neck, and break out into open water before the heavy mass swung into the opening.

Within two hours our task was completed and we were ready for the trial. Calling out to Robinson to let go our ice anchor and to clamber aboard as we struck the neck, I pulled the bell leading to the engine-room. How agonizingly slow and how pitifully weak she seemed as she limped ahead under only two cylinders! She struck and stopped, but did as we expected — she cracked the neck. As I was about to reverse and ram it again, I noticed the crack slowly widening and felt the Bowdoin trembling, and I knew then she was beginning to get right down to business. Not a word was spoken as each man lined up two objects on the shore and noted results. We were certainly making headway! Several heavy pans blocked our exit. These the Bowdoin gently brushed aside, and within fifteen minutes stuck her steel-shod nose into a choppy blue head sea. We were free, having been imprisoned for three hundred and twenty days!

Upon any less important occasion we should have anchored in Wiscasset Cove, under the lee of the land, for it was blowing a gale from the southward, but like a colt out to a first green pasture in the spring we raced for the open and headed south for Etah.

We found our lady friends plainly tent-dwellers and not sailors. They soon lost what the cook had given them a few hours before. I was amused to see one of our Eskimos tying a tight rope around his waist — his theory, undoubtedly original, of a cure for seasickness. Certainly it was as good as many others. He was free of sickness, anyway, and gave credit to the rope.

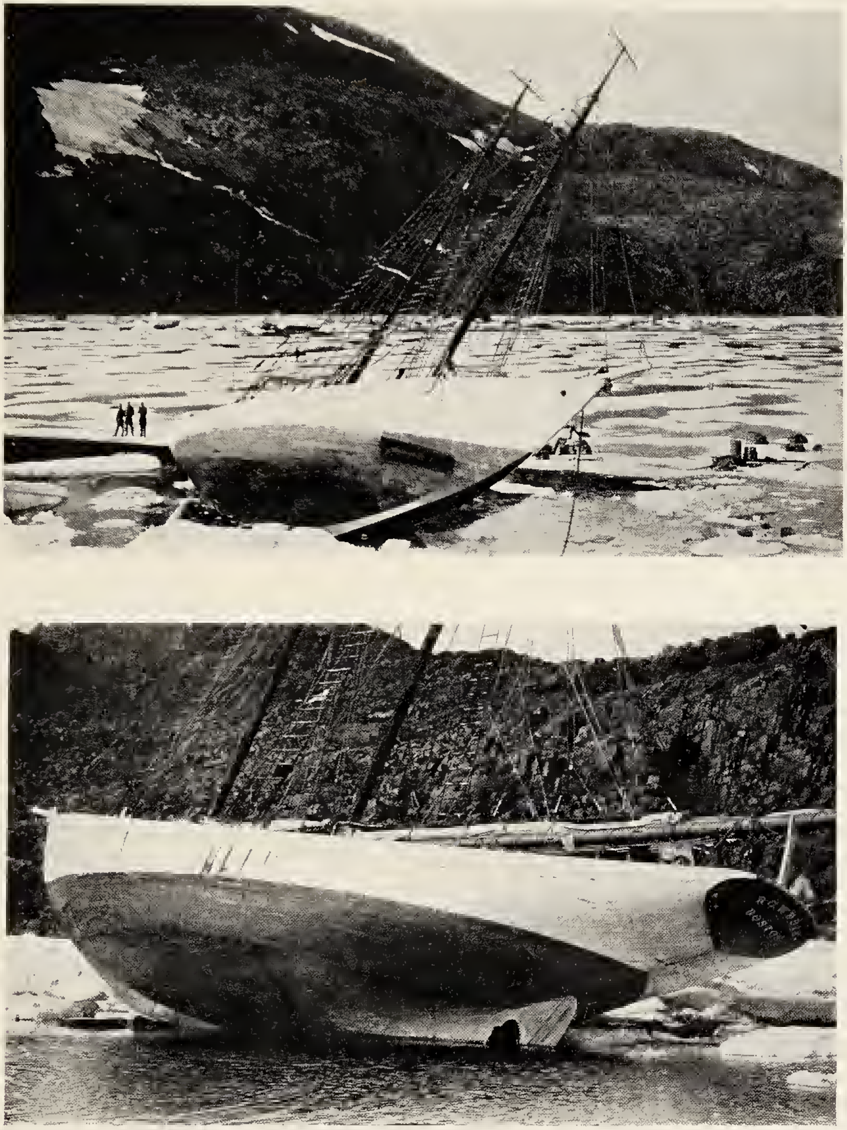
At five-thirty in the morning we anchored in Foulke Fiord in front of the Eskimo encampment. All of our Eskimos landed immediately to get and receive the news and to feast upon little auks which nest here in millions. The next evening, August 2d, we were away, adding to our heterogeneous deckload two more Eskimos, ten more dogs, and three live white gyrfalcons. There was still room at the masthead!

At three-fifteen on the morning of the 3d, we arrived at Nerky, where we landed one Eskimo family and fourteen dogs. From here we headed across Murchison Sound for the north end of Herbert Island to return a borrowed dog and see old friends of 1913–17. Here we found a very large settlement with a number of children, all very anxious 'to go to the movies' on board the Bowdoin. Asking Robinson to give them a pleasant evening, I left for Kah-na with Jaynes in our small motor boat after some Eskimo clothing ordered during the winter.

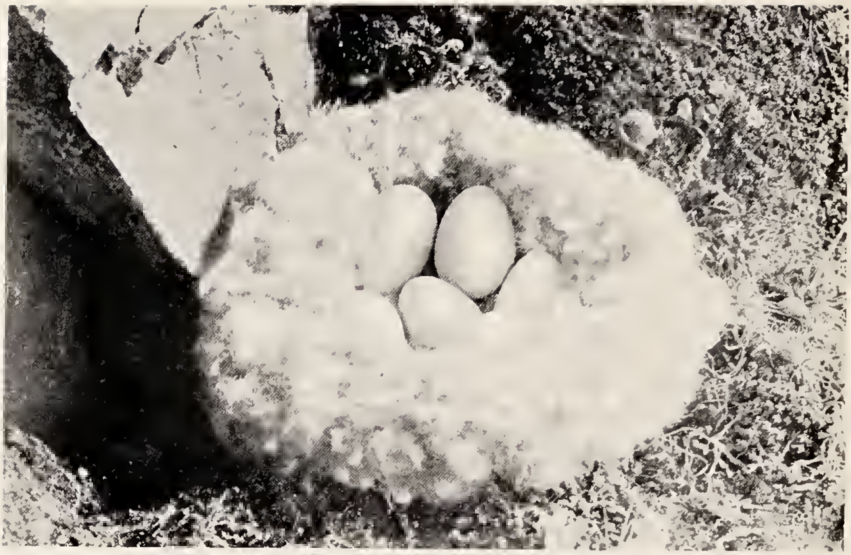
To my surprise this settlement, deserted for several years, was even larger than that on Herbert Island. There were eight tents in all with an average of four in each. Our first surprise was to be greeted on the beach by women and children only. The men were all away hunting white whales, of which they had already killed ten. The congregation here was really the prospective church parish. All were keenly interested in the plan of having a building in which to worship.

After distributing candy to the children, soap, washcloths, combs, and needles to the women, and leaving tobacco for the men, we were away, chugging back across the bay to the Bowdoin. We arrived on board a little after midnight, to learn that some of the motion-picture audience had been seasick and compelled to leave before the show was over!

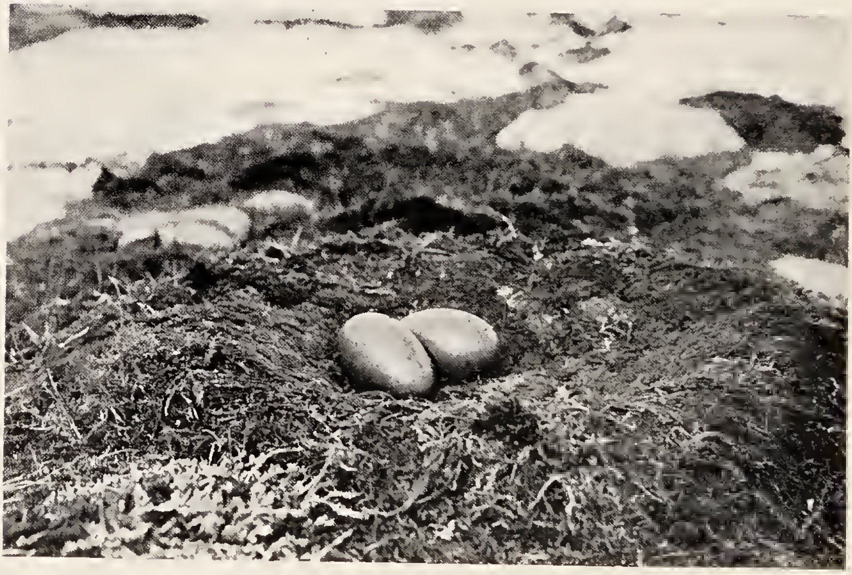
Koo-e-tig′e-to, one of my companions on the Ellesmere Land trip, decided to leave us here. He was to be married. He had often told us of his prospective bride, and had as often confided his fears that a rival youth had 'stolen' her. I went ashore with him to learn his fate. He had declared that if he didn't get his sweetheart he would do something desperate — he would even go to America! We found her single, blushing, and very coy and willing. I gave him a



THE BOWDOIN AGROUND



NEST OF THE BRANT



NEST OF THE RED-THROATED LOON

tent and wished him luck — the marriage ceremony, simple enough for any one. When we left the island, he was paddling around in a new kayak alternately dipping and waving a tin plate, one of his wedding gifts, which he was using for a paddle. The future looked long and bright for him after one day of married life.

On the 4th, we reached Kiatak, a settlement on Northumberland Island, where we were to bid good-bye to all our Eskimos, faithful E-took′a-shoo, genial Kah-kotchee′a, young Ki-wee′a, and their wives. Surprised at the size of Herbert Island and Kah-na settlements, I was astonished to find here forty people. The fact remains that, in spite of the frightful mortality due to influenza in 1919–20, there were more people than ever in the tribe. They were congregating in large settlements for some unexplained reason: possibly fright induced them to do so during the epidemic.

These people were very enthusiastic over our motion pictures. Some shown were of large herds of narwhal off Kiatak, taken by us in 1915. Eskimos dead for some years smiled at them from the screen — a new experience for all.

Our decks were now clear again. Our Eskimos had established their new homes and were busily entertaining visitors with incidents of their year with the white people. I think they were really sorry to have us go. They would certainly miss the coffee, tea, sugar, and biscuit — their weekly ration — if not the companionship of my men. I had paid them well for their year's work. With their new high-powered rifles, twenty boxes of ammunition, tents, clothing, talking-machines, and gifts too numerous to mention, they were without doubt the wealthiest people in the tribe. E-took′a-shoo helped even to hoist anchor. He was the last to leave, which he did with tears in his eyes. He had stuck to us to the last, dear old E-took′a-shoo! He waved until waving dots merged into the barren hills and they were gone, probably out of our lives forever.

CHAPTER XV

GOOD-BYE TO NORTHERN FRIENDS

With beautiful weather we proceeded down the coast to Ak-pat, a settlement inside of Conical Rock, but now a settlement with two residents only, Kood-look′to and his wife, Ahl′na-doo′a, old friends of sixteen years' standing. Here these giant cliffs, which guard the northern side of the harbor, are one of the sights of the North. They are alive with Brünnich murre, the Ark-pa of the Eskimos, a bird known on the New England coast during midwinter months as the 'noddy.' We remained here until the evening of the 9th to secure a series of motion pictures of this remarkable display of bird life.

At Cape York we encountered our first real field of drift ice, held here by the tide and by hundreds of bergs. Rather than encircle it, we bucked straight through for the Eskimo settlement at Bushnan Island, where we anchored within a few yards of a tent. When the anchor chain rattled through the hawse pipe and aroused the occupants from a sound sleep, one woman bled profusely from the nose in her excitement: this is a common occurrence among these people.

Anowka, the resident here, volunteered to pilot us to a neighboring settlement which I had never visited, and which was inhabited by people whom I was very anxious to see, perhaps for the last time. Just before our arrival, six kayaks darted from behind an iceberg, plying their paddles vigorously and yelling loudly, the occupants endeavoring to keep up with the Bowdoin. I recognized Tung-we, one of Peary's able assistants and the largest man in the tribe, who distinguished himself in the eyes of the white men some years ago by the remarkable feat of hurling a harpoon from one whaleboat over another into the body of a walrus!

I slowed down the ship and permitted the Eskimos to overtake us before we anchored in front of the village, which consisted of five tents. The anchor had hardly touched bottom before all the kayaks were tied up to our quarter and the men were on board, wistfully watching the tobacco smoke eddying from the pipes of my men. One plug each made them all happy; so satisfied in fact that they wanted to accompany us to the next settlement ten miles beyond, hoping possibly for a similar issue of rations. A few hours here was long enough for the younger girls to net a few hundred birds and thus replenish our meat supply.

With cabin house covered with kayaks, we went on under power to Meteorite Island, from which Peary obtained the three meteorites in 1895–96–97. The largest of the three weighed about sixty tons, the largest meteorite in the world. From these great masses of iron the Smith Sound Eskimos obtained material for their knives for centuries before the arrival of the whites. Another has since been discovered weighing about six thousand pounds. This last winter the Danes attempted to sledge it to one of the outer islands, where it would be more accessible to a ship, but they were unsuccessful in the attempt. Following the breaking down of their specially constructed sledge, they landed it safely upon the mainland some six miles northeast of Meteorite Island.

On August 12th, we bade good-bye to our last Smith Sound Eskimos and headed out through a maze of icebergs into Melville Bay. Should we be as fortunate in recrossing as we had been in crossing in 1923? I wonder if any ship ever crossed before without a turn of the wheel! Not a pan of ice from outside of Meteorite Island to the Horse's Head, two hundred miles away! It seemed too good to be true. We crossed that troublesome stretch of water in twenty-seven hours. The wind coming in ahead, we anchored in a fine little harbor to await a more favorable opportunity before proceeding southward.

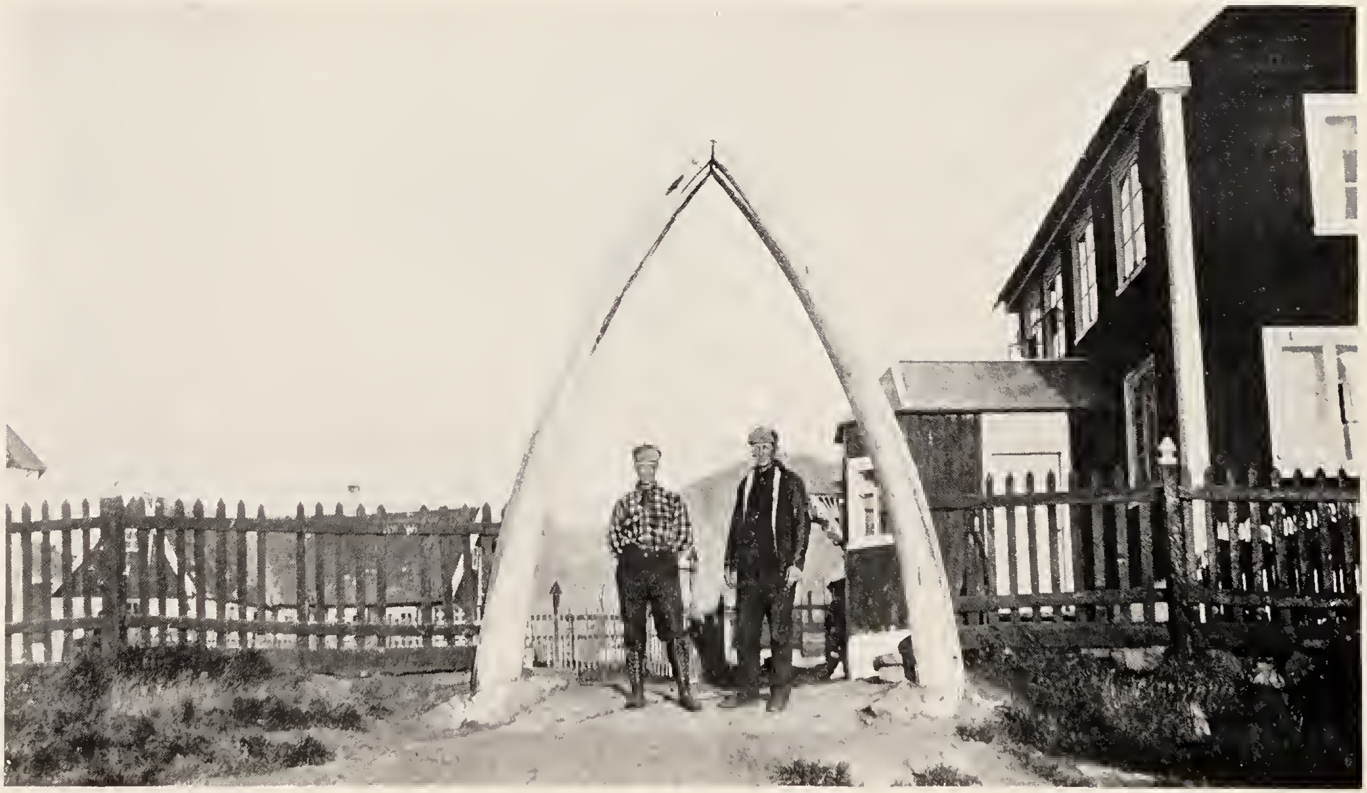
On the 14th, we were away with a fair wind, passing Tasiusak, Proven, and Upernivik, Eskimo settlements well known to American expeditions. On the 15th, under sail alone, we logged nine and a quarter miles an hour, running from Upernivik to the entrance of the Vaigat, through which I planned to pass. A head wind and tide threatened here to consume so large a portion of our precious oil supply that we swung the Bowdoin off down the west coast of Disco Island for Godhavn, the Lievely of the English whalemen, which we reached at 3.30 P.M. on the 16th, our first port in civilization for more than a year.

The Government officials, upon learning that we were from the North, waived their demands for a bill of health and granted us the liberty of the capital, an unusual courtesy to a foreign ship without a special permit from the Danish Government. This we really had, but as it happened no chief inspector of any district or Kolonibystyrer of any capital had been notified, thus we were in the embarrassing position of an intruder.

I called upon Chief Inspector Lindow the next day and explained as well as I could my object in coming to Greenland and the nature of our scientific work for the Carnegie Institution of Washington, the results of which go to all nations and are of especial benefit to the Danish nation. Mr. Lindow, whom I first met seven years ago, welcomed us heartily to the settlement and did everything possible to make our two days' sojourn a memorable one, Mrs. Lindow even offering us fresh radishes from her garden.

With very few exceptions I have always found the Danes unfailingly courteous and very likable. If the whole nation is to be judged by the character of the Danish officials in Greenland, then we as Americans have much to learn about hospitality to strangers.

THE BOWDOIN IN THE HARBOR OF GODHAVN



A WHALE-BONE GATEWAY
Captain MacMillan and Mate Robinson

Godhavn, or 'good harbor,' is rightly named. Rarely could a ship find a better refuge. Easy of entrance and secure from winds in any direction, one can readily appreciate its historical importance. Known as the English port of Lievly it has sheltered the Dundee whaling fleet for a century. The old whaler's lookout still stands, its frame constructed of the massive jaw bones of the right or Greenland bowhead whale. Hundreds of seamen's names are written and carved within, some dating back to 1811. Still pointing seaward is the rusty cannon, from the mouth of which boomed the announcement to the fleet anchored in the harbor below that a whale was in sight.

As I looked at the harbor mouth I could see Dr. Elisha Kent Kane and his men rowing out in the ice-battered Faith, flying the Stars and Stripes, to meet the relief squadron of Captain Hartstene — a memorable event in Arctic history. 'Presently we were alongside. An officer, whom I shall ever remember as a cherished friend, Captain Hartstene, hailed a little man in a ragged flannel shirt, "Is that Dr. Kane?" and with the "Yes!" that followed, the rigging was manned by our countrymen and cheers welcomed us back to the social world of love which they represented.'

Here Dr. Hayes called on his way south in 1861. Here Charles Francis Hall bade good-bye to his supporting ship, the U.S.S. Congress, in 1871. Greely called here in 1881 and purchased twelve dogs for his Northern work. Here Lieutenant Colwell arrived in 1883 after that remarkable trip of eight hundred miles from Cape Sabine, following the sinking of the Proteus. The next year the Greely relief squadron, the Bear, Thetis, Alert, and Loch Garry, all assembled here in a concerted effort to rescue Greely and his men. And to this port they returned with the living and the dead. Here Elison died, and here Christiansen was buried. Here Peary began his notable work in 1886, when he came North to make a reconnaissance of the Greenland ice cap. On the summit of the high hills east of the snug little harbor we could see his first Northern cairn built in 1891, the first of many in that great Northern waste stretching toward the Pole.

The whole place fairly bristled historically. Long isolated from the world during the winter months, it was to be no longer so. The walls of a new building were being erected, one which will enact an important part in the lives of this Northern settlement — a new wireless station, to connect with two others farther south, one at Godthaab and one at Julianehaab. The latter will convey the messages to Iceland and thence on to Copenhagen, Denmark. Wireless has conquered the North.

On Sunday night, August 17th, we communicated by wireless with a Norwegian whaler lying thirty miles off the Whale Fish Islands, our first successful attempt to reach some one for six months. Plainly the Norwegians were mystified as to our identity and our object, inquiring if we were catching whales!

The American fleet at Ivig-tut, awaiting the hydroaeroplanes in their round-the-world flight,[1] were heard repeatedly giving information about the weather and advising as to when the attempt should be made to fly from Reykjavik, Iceland, to Ivig-tut.

On Tuesday, the 19th, we ran over to Egedesminde with the hope of replenishing our oil supply, which was getting dangerously low for our long run to Labrador. We could, however, secure only four barrels, or about two hundred gallons, a two and a half days' supply. Rushing this on board we were away at seven-thirty in the evening, down through the southwest run for the open sea which I was anxious to make before dark.

A beautiful sunset over the waters of Baffin Bay gave promise of fair weather on the morrow. In this, however, we were disappointed. Head wind, rain, and a rough sea were our lot, the latter especially trying, since it exacted a heavy toll from our oil tanks. I decided to run for shelter and await better weather.

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[1] See *The First World Flight.* Houghton Mifflin Company.

The Greenland coast is a mass of small islands, reefs, and sunken rocks, to navigate which one must exercise extreme caution, especially when large-scale charts are lacking. Such are denied all ships except those in the Government employ. We picked our way past and between breaking reefs, gingerly past two beacons, and ran up into a fiord which I judged by our dead reckoning must be Kangerdluarssuk. Here in a small bight we anchored in three fathoms, secure from breaking waves and strong head winds. The weather of Thursday, the next day, justified our action — rain and wind as we expected.

In the morning an ascending column of smoke from the summit of a hill to the north notified us of the presence of Eskimos and of their desire to communicate with the ship. Goddard and Mix rowed away to hunt them up and to bring back information in regard to the fishing station which we presumed to be there. The men returned in a few hours with some fine sea trout, similar to those caught in the bays of Labrador. They had found a full-bearded Eskimo, his mother, his wife, and six children all engaged in trapping trout in a small stream issuing from a lake. Learning that the Eskimo was to attend to his fish trap in the evening, I ran over in the motor boat to see the operation. At this time of year the fish are evidently returning from the sea to their winter homes in fresh water. The stream had been dammed with rocks with the exception of two small runways, which led into two netted boxes similar to our lobster traps. Out of these the Eskimo pulled two magnificent trout, weighing respectively five and a half and six and a half pounds. He then waded down the stream pounding the water with a stout pole and driving the fish which had not entered the boxes back into an ever-narrowing runway leading into a net bag, out of which he dumped two dozen more, a poor catch he declared! Those that escaped here encountered four nets stretched across the mouth of the stream.

It is a question how far north the Atlantic salmon (*Salmo salar*) goes. I learned from this Eskimo half-breed that they are certainly found here, some thirty miles north of the Arctic Circle, but they are not caught until the first of September. But one can well afford to be patient, since many reach a weight of forty and even fifty pounds!

The next day the weather was still unfavorable; therefore, I determined to find Holstenborg in the dory. This settlement I judged to be about five miles to the south. A very pleasant row along the shore just outside of the breaking surf brought me in sight of a Danish flag at half-mast, a very old dismantled brig and a new bluff-bowed Danish schooner anchored at the entrance of a small harbor. As I rounded the stern of the old moss-covered hulk, I was astounded beyond measure at the name 'Peru.' Could it be possible that this was what was left of the Royal Greenland Trading Company's famous brig, the same one that lay in the harbor of Egedesminde thirty-six years ago, awaiting the arrival of Nansen, who was then crossing the great Greenland ice cap! Once a proud ship, now a coal bin and oil tank!

Two or three boys rowed out to meet me. On recognizing an American dory, they yelled repeatedly 'America! America!' at the top of their voices. I was almost bewildered at the confusion that followed. Doors flew open and people poured out and down the hill in a stream to the dock, 'America! America!' predominating amid a jargon of Danish and Eskimo. I afterwards learned that the Bowdoin had been sighted at anchor the day before and was supposed to be a Norwegian fisherman. The Norwegians are feared and disliked for some unlearned reason, possibly because of rivalry in the fishing interests. The Americans are admired and respected and have long frequented the coast in the pursuit of halibut.

The Assistant Kolonibystyrer, Mr. H. Blicher Neilsen, met me at the head of the dock and invited me to his home. Incidentally he wished to meet some one who could talk English and thereby learn who I was and what my object might be. We met him in the public square, a short, white-haired, ruddy-complexioned Dane by the name of Jensen, the Fishing Master, so-called, of Holstenborg. Having sailed out of Gloucester, Massachusetts, for several years, he could talk good English, which I was glad to substitute for my poor Eskimo. My identity and mission learned and conveyed to Mr. Neilsen, I was cordially welcomed, entertained, and dined. In fact, life here was so pleasant and the village so attractive in its setting that I wanted my men to enjoy it also. Learning that I intended to bring the Bowdoin to the harbor, Mr. Neilsen was good enough to take me back in his power boat and have one of his Eskimos pilot us to the settlement.

While we were drinking our coffee and smoking Danish cigars, an energetic-looking officer entered the room wearing the gold sleeve stripes, brass buttons, and insignia of the royal service. He was Mr. Balle, chief officer of the Hans Egede, at present relieved from duty on the ship and detailed to bring the new schooner at anchor in the harbor from Copenhagen to Holstenborg, which he did in twenty-seven days.

Mr. Balle, of very attractive personality, is the brother of the Mr. Balle, head of the University at Godthaab. He was born in Greenland and consequently can talk Eskimo like a native. With his knowledge of English, Danish, and Eskimo, he was invaluable to me during my stay at Holstenborg, trying in every possible way to make our visit a memorable one.

Jolly, rotund Mr. Hanson was his mate. 'Every one loves a fat man,' and we certainly did Mr. Hanson. When he learned that we were from near Portland, Maine, all doubt as to our friendship disappeared, for that city had a warm spot in his heart. With Mr. Jensen from Gloucester, Mr. Hanson well acquainted in Portland, and the dock covered with Banks dories stencilled 'Amesbury, Massachusetts,' home did not seem two thousand miles away.

At 5.30 P.M. the Bowdoin lay at anchor in the harbor with the Danish flag at the fore and the American at the main, the beginning of a very happy two days' sojourn. A motion-picture show in the evening came as a surprise and delight to the Danish residents and to the Eskimo children peeping down through the for'ard hatch and fairly hanging by their toes in the companionway. Saturday was an eventful day, with an Eskimo dance in the open court before the oldest church in Greenland, a building erected in 1757. A solo dance by one of the older women was a rare treat, being rapturously applauded by both natives and visitors.

The South Greenlander is without doubt the most expert kayaker in the world. I had heard much of the wonderful skill he possesses, but I had never witnessed it. Two men were willing to perform for our amusement and appeared off the dock in their kayaks with sealskin jumpers tied closely around their wrists and drawn about the face. In their eagerness to get under water they were like boys in swimming on a summer day.

Before I could get them in the finder of my motion-picture camera, they were over and bottom up! They made a complete revolution, re-righting their boats with a short stroke of the paddle under water. The younger man of the two, growing more enthusiastic, and being more energetic, made three revolutions, catching his breath each time as he emerged. He then dashed away at full speed, as I thought, for home. To my surprise, with a kind of corkscrew motion he plunged beneath the surface of the water on one side of his kayak and reappeared on the other. He next stuck the end of his paddle through a strap across the deck, which is customarily done when both hands are employed in fishing or shooting. He capsized his kayak and hung head down in the water for a few seconds. While in this position he released his paddle from its fastening, gave one short vigorous stroke, and regained his equilibrium.

All these feats were performed without letting a drop of water into the kayak. This was done by fastening the bottom of the sealskin coat securely about the rim of the manhole. The opening in the hood is drawn together tightly with rawhide thongs; the round, full face of the Eskimo being a more effective water-stopper than the bony, long face of a white man.

The two men were highly elated when for their performance I presented them with some new rope, shirts, knives, and tobacco, not forgetting necklaces for their wives and picture books for the children.

As it was now getting late in the year, we should have sailed for home at once, but, upon learning that the really big day was to be the next, we could not resist the temptation to see it all.

So much was being done for us that we were under an obligation to make some hospitable repayment; therefore we invited the whole town out to the Bowdoin for a motion-picture show. Our largest attendance heretofore had been forty, about as many as our little forecastle could uncomfortably accommodate, since it was built for six! We had invited two hundred and fifty; and we knew that there would be no polite and insincere cards of regret at having accepted previous invitations.

Robinson decided to attempt an open-air performance by stretching a screen between the mast and the rigging and stationing the machine well aft on the Bowdoin. Evidently the natives feared that our generous invitation was bigger than our seating capacity, for boats began to arrive at six and continued to do so until ten o'clock, when it was finally dark enough for a reel of Pathé News.

A picture of the Bowdoin with decks, cabin house, fore and main gaff black with people, and alarmingly listed to port, would have caused no little concern to the marine insurance companies which had staked their chances upon her safe arrival home. If any one could have recorded the various exclamations and remarks of these Northern natives who had never seen motion pictures, he might have presented to the public a very interesting study of a primitive mind. We are as we think is as true of the savage as of the civilized.

Sunday we visited the churchyard. Formerly the port of many an American fisherman and Scotch whaler, Holstenborg must have witnessed the burial of at least a few sailors. The pastor of the church accompanied us and called my attention to certain symbols upon a headstone — Odd Fellow and Knight of Pythias. An American!

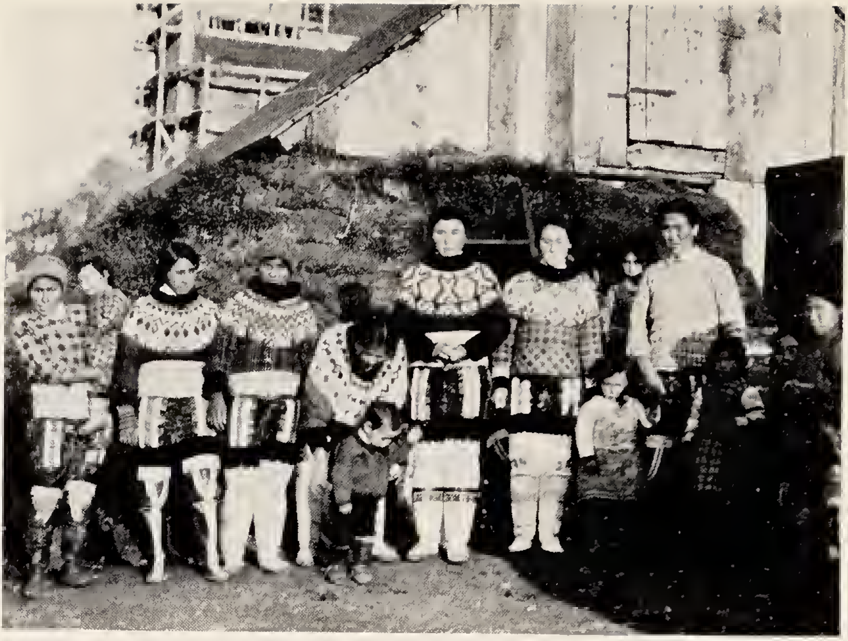
Captain John Albert Flygore
master of Sch. Oregon
of Gloucester, Mass. U.S.A.
Born Sweden 16 Sept. 1865

We found others of interest:

Sacred to the memory of
Stewart Chaplin
of
S.S. Thetis, aged 29 years
who accidentally lost his life at sea
on the 27 day of May, 1883

Sacred to the memory of
James Watson
2nd Mate
S.S. Nova Zembla
of
Dundee
who was accidentally shot
10 April, 1888
Aged 45 years
May 31
Thy will be done

THE BEAUTIFUL LITTLE VILLAGE OF HOLSTENBORG



GROUP AT HOLSTENBORG
Showing typical dress of half-breed women

A SCHOOL FOR THE ESKIMOS

A wooden slab pathetic in its roughness and sentiment was of especial interest:

In memory of Orston Arlington
who died on board the Will & Anne of
Whitby, Captain Terry
April 24, 1830
Aged 15 years

Life's stormy ocean soon he crost
No more by angry billows tosst
His voyage is over, he's anchored here
Till Christ to judgement shall appear.

CHAPTER XVI

HOMEWARD BOUND

SUNDAY a day of sports! Greenland is keeping step with the world. Poor old Hans Egede, who frowned upon all merriment in Greenland, must be sitting with bowed head somewhere and wondering if, after all, he was right.

At 2 P.M. eight boys were on the starting-line in their kayaks ready for the 'Go!' The course was from the dock out around the Bowdoin and the dismantled Peru, and back to the line. Many questioned afterwards if the men could have beaten those boys, a heterogeneous mixture of Eskimo, Danish, French, English, Scotch, Irish, and American parentage — certainly a sturdy-looking lot. The persistent belief that a half-breed is inferior in every way to a full-blooded native does not stand the test, and is as senseless as many another deep-rooted conviction. The boy who won this race was clearly three quarters white. He used his head from start to finish, avoiding the jam at the turns, which put two out of the race, and even cutting under the anchor chain of the old Peru to shorten his distance! With long, easy strokes he was an easy winner, although he was apparently inferior in strength to a few of the others.

The voluble protests of the defeated were quite as full of interest as the race itself — boys the world over. A gathering of jockeys with their whips and seats about the judges' stand at a country fair was my only comparison. Grievances were soon forgotten and away the happy youngsters trooped ready for the next event, a kayak race by their daddies, seasoned hunters, and very business-like in their sealskin half-jackets, a protection against spray.

As Mr. Balle waved his white handkerchief and the eight paddles struck the water, it was plainly evident that a real race was on. Under the impulse of vigorous strokes the decks of the eight boats were level with the water. There was the same confusion at the turns and a bit of brain at the finish when the winner, although several yards in the rear, took the most direct route to the finish line.

The rifle shoot was the event of the day. Old, middle-aged, and young deserted the village for this important event and thronged the path leading to the range. The rifles were pitifully old and many of the home-loaded cartridges failed to explode. If a man at seventy-five yards hit the paper target, some sixteen inches long and twelve wide, a general shout of approval burst forth from the throng. Any one of my men would have hit it at the first shot and every succeeding shot. The modern high-power rifle would have represented a fortune to these natives, but one which no Eskimo could afford to use at eight to ten cents a shot. When the name of the best marksman was proclaimed, there was a burst of applause and a rush toward the happy contestant. He was raised high above the heads of the crowd and carried in triumph down to the village on the shoulders of his rivals for honor, a very generous act.

A bag race for the boys caused tremendous excitement, a dark horse, a sweet-faced little fellow, winning handily, smiling all the way around the course. To my surprise every boy ran with short steps. An American boy would have jumped the whole way, the recognized most efficient method of winning such a race.

When the bag race for men was announced, to the surprise of all, an old woman expressed her desire to enter the contest. Her ambition was ridiculed by the spectators, who never expected her to finish. To humor her the judges accepted her entry. To the chagrin of the men she ran away from them, and was at the finish line well rested when the last straggler came tumbling home!

Coffee, the popular Danish drink, for all in the square, brought a memorable day to a close. Reluctantly we planned to leave at daylight, so we bade good-bye to Mr. Balle, a delightful fellow, to Mr. Hanson radiating good nature, to Mr. Neilsen, who generously gave us the keys of the city, and to Mr. Jensen who is initiating the American method of catching halibut. Holstenborg, nestling among the hills just north of the Arctic Circle, remains as a very pleasant memory.

At 2.30 A.M. a step on deck announced that our pilot had arrived. In the first gray light of the day, with the village in deep sleep, we stole out of the harbor and out to sea, dropping the natives well beyond the dangerous underwater ledges. At 7 A.M. we recrossed the Arctic Circle which we had crossed more than a year before. Naturally our thoughts reverted to our winter home at Refuge Harbor and our good friends in the Far North, real Eskimos, whom we had now left far behind.

At 9 A.M. we descried a schooner well off our starboard bow, the first ship we had seen for a year. Since she was bound south, was white, and had power as evidenced by the exhaust, we concluded that it was Rasmussen's trading schooner which had left the Far North three weeks ahead of the Bowdoin. She was out of sight astern in four hours. The Bowdoin was making up for lost time. With cross-bearings on Simiutak and Sukkertoppen, recognized places, we bore away down the coast for Ball River, the entrance to Godthaab.

Upon coming on deck in the morning at six o'clock, I could faintly discern the coast through a fog bank. As we had run our distance, I changed the course for the land, to catch the beacon, which I had little chance of doing in thick weather. At nine we were among breaking rocks starboard and port. A sounding gave no bottom. The back track is always a safe one and back we went out to sea, where we sailed leisurely back and forth for an hour or

A DANISH-ESKIMO GIRL OF SUKKERTOPPEN
A fine type of half-breed

ANOTHER HALF-BREED ESKIMO GIRL OF SUKKERTOPPEN

A GREENLAND HARBOR

more hoping for clearing weather. Had I been sure of a sufficient supply of oil to land us in Labrador, I should not have hesitated a minute to square the Bowdoin away southwest. Our object in going to Godthaab was to secure, if possible, ten barrels of fuel oil.

When the wind changed to the south with a fine drizzle, I was determined to get in somewhere for a harbor, as such weather might continue for several days. After a careful study of such charts as we had, it seemed that we must be in one of two places. If the line of breakers faintly discerned through the mists were outposts of the Kitsigut Islands, by going back, rounding, and steering east, we had a clean run to Godthaab. I decided to go it blind and take a chance, as one must in Arctic work. With Jaynes at the wheel and myself in the crow's-nest, we struck in among the breaking rocks, navigating by the color of the water. As ledge after ledge appeared out of the mist and islands intercepted our east course, I knew that we had missed the hole and might strike at any moment.

It may seem strange to some that there is a zest in playing a game such as we were playing and had played so many times; but there certainly is no lack of interest when you test your eyes, your judgment, and your experience against such an adversary as Nature. We went on for three miles or more, passing breaker after breaker and island after island. When no swell was perceptible and I was assured of a quiet night and shelter from a southerly storm, we sought out a snug little harbor between two islands and dropped anchor in seven fathoms. It rained and blew hard all night from the southward, causing no little concern to some of my men who wished we had more sea room. Our unusually heavy anchor and our big chain, tested, as elsewhere noted, to twenty-two thousand pounds' breaking strength, assured me that the Bowdoin would be right there in the morning, as indeed she was.

The storm continued throughout the day and the following night, with a steadily falling barometer. On Thursday morning, however, there were signs of clearing. The fog lifted disclosing numerous islands and breaking reefs, but as yet nothing of the mainland could be seen. Judging that we were eight or nine miles north of Godthaab, I decided to put to sea and run down the coast with a view to picking up the beacon off Ball's River, the only marker which aids the navigator on the coast in positively identifying a locality; the settlement itself may be miles away.

In three quarters of an hour we were clear of the breakers and skirting a line of reefs leading southward. Nothing could be identified until a peculiar-looking black headland emerged out of the fog, which I recognized as the Kangek. Within a few minutes Jaynes sighted the southern beacon at the entrance to the run. The northern, which should have been seen first, could not be found. All points checked so beautifully that I took the chance of the beacon having been destroyed or blown down by the wind, and steered the Bowdoin for the Soelskoer Rocks. If we were right, a rock should break almost under our bow in such a swell. From the crow's-nest I scanned every square foot for a change in color, but could detect no difference. When almost through the narrow pass, a wave lifted and showed its white flag for a second and then flattened. I knew we were right and changed the course for Godthaab, twelve miles away.

As we were passing Kangek a boy ran alongside in his kayak and expressed a desire to accompany us up to the settlement. Rising and falling in the heavy swell under the lee of the Bowdoin jogging under head sails, the lad made several unsuccessful attempts to get out of his frail craft. I suggested that he give up the attempt and return to the land. He simply smiled and watched for a favorable opportunity, and finally slipped out of the hole. On the deck of his kayak he had a kittiwake gull which he had secured with his bird spear, and two large boneless strips of some kind of fish spotted like a leopard, a fish strange to all on board.

We could not see the village of Kangek, famous for its expert kayakers. Approached from the sea, Godthaab, the capital of the district, is wonderfully attractive with its well-painted buildings — red predominating in the color scheme — and its backing of four noble peaks, Little and Great Malina, Kingigtorsuak, and the Sal or Saddle. This last has been often called the most striking peak in Greenland. Covered with snow during the winter months it must present a wonderful picture. Three Danish flags snapping in the wind added a bit to the beauty of the little settlement. Boats and kayaks dotted the waters immediately in front of the harbor busily catching large cod, halibut, and wolf-fish (*Anarrhichas lupus*), the last mottled and repulsive-looking, but said to be delicious eating.

Our anchor had hardly gripped the bottom before the Government motor boat was alongside with our new friends of the preceding summer, Kolonibystyrer Christian Simony and Mr. Balle, head of the University. Accompanying them were L. Malchow Moller, civil engineer, whom we met at Egedesminde, and the new Governor of all of South Greenland, K. Honore Peterson. With this meeting began a series of delightful entertainments where true hospitality was shown during every minute of our stay. We were ready to leave when we learned that the whaling steamer had been sighted returning to the harbor. All was excitement, since a whale meant so much to the Royal Greenland Trading Company, and far more to the natives, who would have all the meat after the blubber had been stripped from the body. The Eskimos swarmed over to the back of the harbor, some in boats and others over the hills, all hoping to get a mouthful of raw whale-skin.

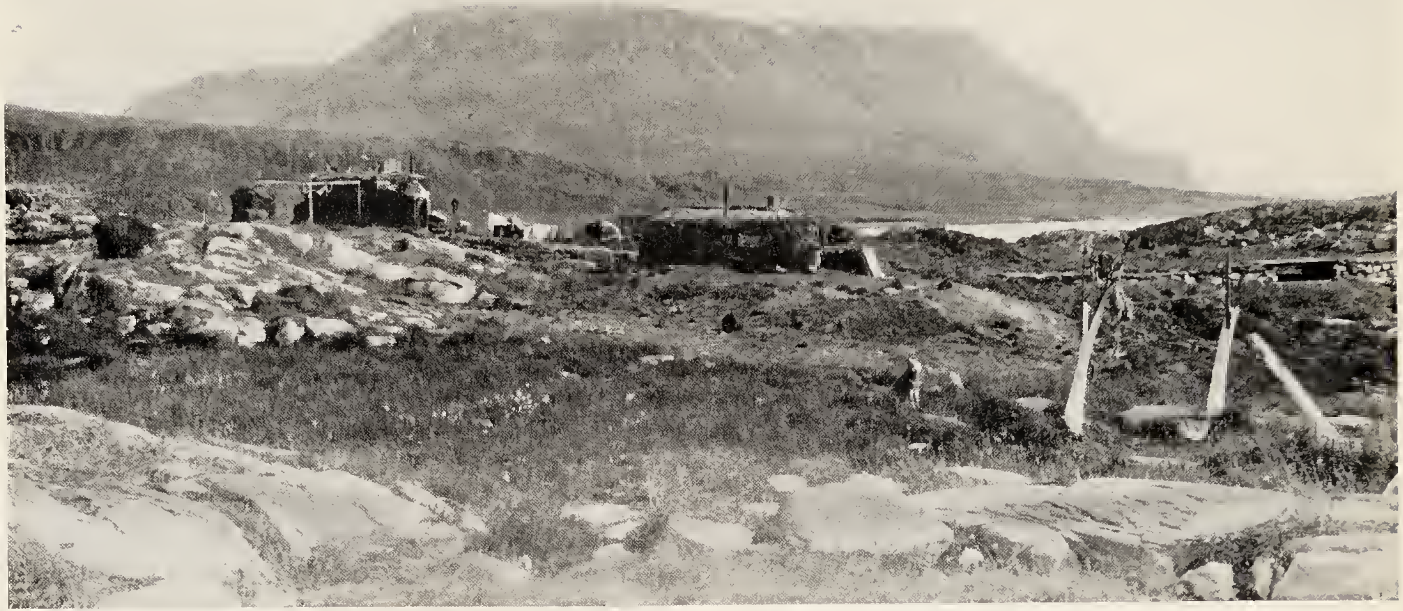
A nearer view of the Sonja disclosed a ‘kepokak’ or humpback whale lashed alongside, its body as black as a boot. This species is easily distinguished by its long pectoral fin, which reaches a length of thirteen feet. Although this whale is notoriously poor in oil and as poor in 'bone,' the mother ship was glad to receive it in dearth of other and better, and began cutting-in at once. The term 'humpback' is really a misnomer and misleading, since this species receives its name from its low dorsal fin.

It was a stirring scene as the long strips of blubber swung in over the rail and onto a long table beneath the cutting-knives of the Eskimos. There a multitude of expert hands deftly cut the black skin from the white fat and slid the great junks along to the salters, who packed them in strong barrels ready for the coopers, a method entirely novel to our New England whalemen, who had their brick try-works right on deck and rendered the oil at sea. The lurid glare of the fire beneath the big kettles has often been mistaken for a burning ship in the old days.

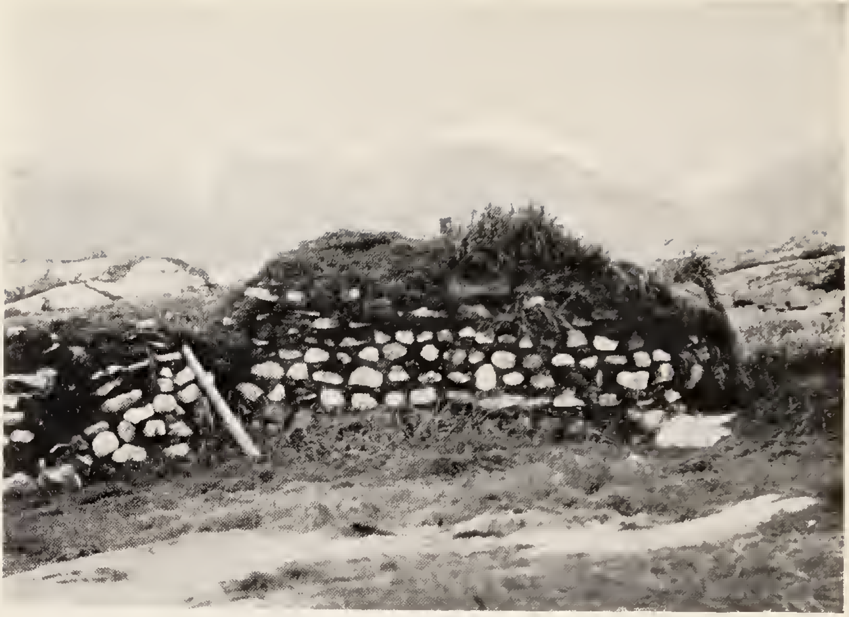
The natives were not too busy cutting and eating to be unmindful of their wives, children, and sweethearts, who, with upturned faces and appealing looks, crowded the boats ranged along the rail. There was a steady flight of tidbits from the cutting-table over the rail down into the waiting mouths, for all the world like those of expectant young birds awaiting the arrival of their parents.

Naturally we were all anxious to test the virtues of this rubbery-looking delicacy of the Eskimos. Not all tested it long, however. I found it to be very similar in taste to the skin of the narwhal and white whale, but tougher in texture. Some of my men agreed with me that it does have a certain taste of the chestnut. Boats loaded with meat and skin, a winter's meat supply, returned to the village. Another whale would assure them an easy winter, too easy, perhaps, for their own good.

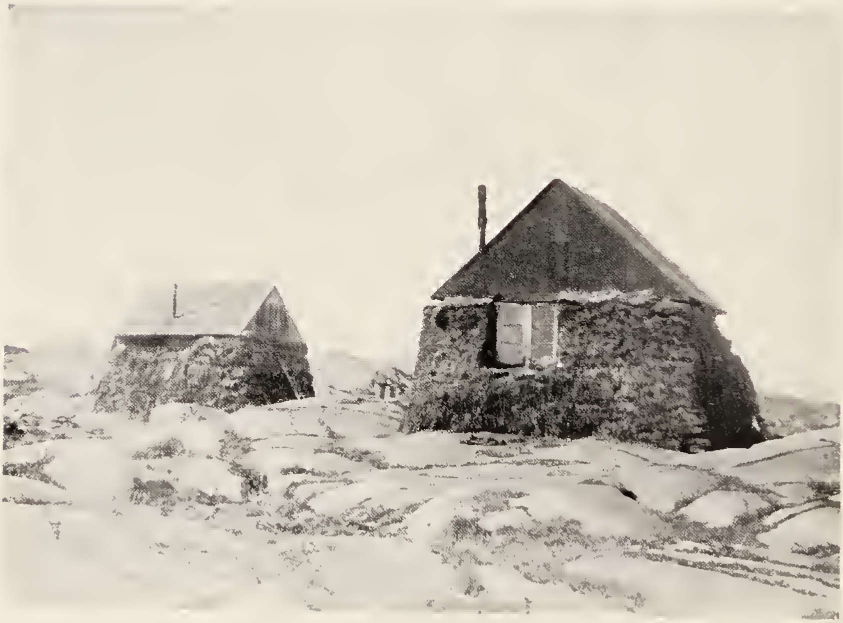
A dinner at the home of the Kolonibystyrer, followed by coffee with the Governor and his wife, completed a very busy and happy day for Robinson, Jaynes, and myself.



HOUSES OF SOUTH GREENLAND ESKIMOS



A wooden interior banked with sod and rocks



Houses of a better class

TWO TYPES OF SOUTH GREENLAND HOUSES

We tumbled into bed at 1 A.M. for a few hours' sleep before starting for home at daylight. The first streaks of light said 'no' to this — wind dead ahead and thick fog.

I began to wonder if we should reach home in time for Thanksgiving. My anxiety was allayed temporarily upon learning that a dance was being planned for the evening. We were misinformed. Mr. Balle, head of the University, explained later that Sunday really begins at six o'clock Saturday night and terminates at six on Sunday night. No festivities of any kind are ever held on Saturday evening, which is really a preparation for the Sabbath; whereas on Sunday night dancing may be indulged in without criticism!

With the first gray streaks of dawn I called my men. Fog or no fog we must go. And out we went down Ball's River to the sea and pointed the Bowdoin's stubby nose for the Labrador coast, four hundred and fifty miles away. With fair wind and engine we raced for home, covering two hundred and twenty miles the first day. The second, however, paid us back — easterly wind, heavy sea, rain, and fog. With fifty-five hours gone and our log indicating our distance nearly run, we endeavored to pierce the thick white blanket enwrapping us. It suddenly occurred to me that one might look over it from our crow's-nest, as I had done two years before at Cape Sable Light. As I swung one leg into the barrel, two giant black peaks loomed out of the clouds. We had arrived in Labrador, but where? In another half-hour a massive gray cape, its shore line white with foam, swept by within a few yards.

We swung the Bowdoin south down the coast studying every rock, reef, and mountain-peak. There was only one conclusion; we were at the entrance of Saglek Bay, 58° 30′ N. Lat., twenty miles north of the Moravian settlement of Hebron. Since darkness and fog would soon be upon us with a possible iceberg interrupting our course, I deemed it prudent to run up into the Bay and anchor for the night.

As I looked west into Saglek's long dark arms and recalled the many stories of its wonders, I regretted that the summer was gone and the time too late for exploration. But another year was coming and then ——

The slatting of the mainsail on the morning of the 3d awoke me to a sense of up and on, although the clouds still hung low over the hills and sea. Reluctantly we passed Hebron and many good friends and directed our course toward old Mugford, hidden in a fog bank to the south. When should we see our first fishing schooner? Eagerly we scanned every island as the fog lifted and at last were rewarded at the sight of a sail near the Watchman. The unfortunate fellow was bound north! A poor fish year on the coast. At this time all schooners should be squaring away for home with full holds. We learned later, however, that in general fish were plentiful and that many schooners had sailed for home loaded to the hatches. Two schooners at the Nanook-tut were favorable signs that the fishing interests on the Labrador were not wholly dead.

Since the islands and coasts were buried in fog and the inside runs not safe, I decided to put out to sea and run down the coast during the night outside of everything. In the morning we were in latitude 56° 15′, forty-five miles from our destination in Jack Lane's Bay. As we were moving on for the Bay, three humpback whales showed their black backs above the water in the midst of a big shoal of porpoises. Both were evidently feeding upon herring, which formerly were very abundant upon that coast. We followed them, at one time fairly riding upon their backs and wondering if there was much destructive power in the swish of their big tails. A whaling steamer would have reaped a harvest.

Now that nearly all of the whaling stations on the Labrador are closed, it is possible that the number of whales is increasing. In addition to the grampus and several kinds of porpoise, there are at least seven other species of whales on this coast, namely, the finback, sperm, sulphur bottom, humpback, white whale, narwhal, and killer. The decrease in number of whales killed from 1904 to 1907 is interesting; one hundred and fifty-three in the former year and ninety-four during the latter. In 1924 we understood that only one company, that at Hawk's Harbor, was in operation.

We arrived at Bromfield's house in Jack Lane's Bay about 1.30 P.M., all very much concerned over the fact that no flag was flying to greet us. There was only one interpretation — some one had died, since the last words of Bromfield's father were, 'If anything happens at home we will not put up the flag.' When entering the harbor I had certainly caught the colors of a flag for a brief moment. What did it mean? A boat put off from the shore rowed by a small boy. As he reached the side of the ship, I anxiously inquired, 'How's everything at home?'

'All right, sir. Father and Walter are both away. I tried to put up the flag and broke the line.'

We were all happy for Abram, who had been very much concerned over the poor health of his mother. We dispatched a power boat at once to the Hudson's Bay Post at Davis Inlet, notifying the absent ones of our arrival and of our intention to leave a large part of our equipment here, since it was our intention to return to the Labrador the following year.

On Saturday, September 6th, we were away at 4.15 A.M. for the Moravian Mission Station at Hopedale. When turning into the entrance of Windy Tickle, the smoke of a steamer was discerned issuing from behind an island near Fanny's Harbor. The northern Labrador mail boat, the Wren, without a doubt. Little did we think then that she would be a total wreck before dark. We learned about the disaster when we reached Battle Harbor a few days later. The rocks and reefs of Labrador never fail to exact their annual toll.

It was good again to accept the hospitality of Mr. and

Mrs. Perritt, and more than gratifying to extend help in a small way. On our trip northward the preceding year we had delivered a radio set. It had long been silent after furnishing the Perritts with a great deal of pleasure during the winter. Several visitors had turned the dials and had tried in vain to bring forth even a howl. I detailed my operator to solve the mystery, which he did in a very few minutes. The 'ground' was imperfect. This remedied, we left them happy and sailed south for the first wireless station on Dunn's Island. To our disappointment there was not a single message for the expedition on file. Our friends had forgotten us!

I was glad to get out of this miserable harbor long before daybreak and vowed never to enter it again. It is an excellent place to lose a ship. With a bad rock at the entrance, another one in the center of the harbor, with hardly enough room to swing, and very poor holding ground, sleep here is impossible if one thinks of his ship. I crossed it off the list, and squared away down the coast for a fast run to Indian Harbor, Dr. Grenfell's most northern mission station. With started sheets we fairly flew around the end of Uigoklialuit, grazed the rocky eastern end of Kidlialuit, and headed for 'The Rags' and old Cape Harrison, well known to all small boys in Provincetown, years ago, for their fathers fished and even wintered there.

An hour's run and then on the port-hand Quaker Hat and Quaker Reef with picturesque Tinker Island on the starboard. Holton Island, Coffee Island, the White Cockade; round Cut-Throat — and there is Rodney Mundy and the Grenfell Mission Station, a welcome sight to many a suffering fisherman.

Away at the crack of dawn hoping to make Battle Harbor, but at 7 P.M. so dark that I ran for Comfort Bight — a ticklish bit of navigating, but good eyes and good ears for'ard spotted the ledges, and heard the swash of the sea on great black spots in the sky which we knew to be cliffs.

After anchoring in a hole as black as ink and congratulating ourselves that we were safe in Comfort Bight, we heard the chug-chug of a motor boat. You can imagine our surprise and humiliation upon hearing a voice in the dark.

'Youse better come over to Comfort Bight, sir!'

'Do you mean to tell me this is not Comfort Bight?' I fairly shot back.

'Oh, no, sir, you is in Back Harbor — How did ya git in?'

Finally, after much argument and a use of the chart, he admitted that we were in Comfort Bight, but not in *his* Comfort Bight!

I may say that these hardy Labrador-Newfoundland fishermen never use a chart, or what they call a 'sheet.' Their reasons are two, namely, hardly a man on board can read and write, and as a youngster in our country knows his A B C's, so these mariners know every submerged ledge, rock, and island. This coast is their school and their daily lessons are well learned.

Early the next afternoon we shot through the narrow tickle into Battle Harbor and tied up to the dock. A few minutes later the mail boat anchored just outside. Entertained by my good friend Captain Burgess I can never forget the smell of a gift of four apples, so different from the smell of an Eskimo or of seal meat! There are really some things at home that we miss in the Arctic. Apples, bananas, oranges, pears, plums, cherries — we yearn for them!

Promise of fair weather and fair wind induced us to sail south on the 11th, but rain, fog, and head wind drove us into Bonne Bay on the 12th. We remained there until the morning of the 14th, our visitors being the local policeman and the minister, the most important men in the town.

We always enjoy a visit to these Newfoundland ports. Every one is so friendly and so hospitable. One boy brought us a jar of blueberry preserves and another one a bowl of cream! Both were so good that we promptly bought a gallon of milk and a half peck of blueberries. Perhaps they knew the value of a sample.

We had an interesting experience near here the year before. A man arrived on board the Bowdoin and inquired if we should like to buy some good fresh mutton. We certainly did and ordered ten pounds for our dinner. Eleven o'clock and no mutton. Twelve o'clock and no man in sight; result, crackers and sardines and direful threats as to what would happen when the mutton dealer arrived alongside.

I happened to be strolling through the woods at four o'clock that afternoon. Imagine my surprise upon meeting my traveling salesman, red in face, perspiring freely, dragging a sheep by the neck — our dinner! Henceforth I shall demand a discount upon time to catch and kill. I had heard of 'meat on the hoof,' but this was my first experience as an active-market buyer.

The weather still looked threatening, but after lying in port so long, we often take chances. Head wind and rain all day followed by thunder and lightning in the evening. And then the wind whipped into the northwest and really began to blow. By midnight, 'with everything on her' we were plunging bows under, shipping sea after sea, but going like a race-horse toward home.

Gradually the men came aft. They declared they could not sleep; that they were being drowned out! Whereupon I called all hands and took in the outer jib, and lowered the mainsail. Under reduced speed the Bowdoin stopped her submarine antics and was now lifting her nose up over every sea, and doing her best to keep her stern above great white crests which toppled and fell within a few feet of the helmsman. About daylight several curled over the rail and swept the deck.

This stretch of bad weather undoubtedly played its part in the loss of Nutting, who sailed from Greenland in the little Leif Ericson just one week after we did. Anything can happen to a small boat in the midst of icebergs, on a coal-black night with heavy sea, and wind blowing fifty and sixty miles an hour. The sound of surf in the blackness pounding against the adamant walls of an iceberg is not the 'music of purling waters,' or a 'symphony of ocean wave.' It is Old Ocean telling the mariner to be ever on watch and on guard.

Over the tops of white-capped waves we descried St. Paul's Island about nine o'clock the next morning, broad off on the starboard bow, just where it should be. By noon the wind had moderated to such an extent that we set the mainsail, which hurried us along to Sydney, where we dropped anchor at six-thirty, to be met by the Mayor, who wanted to entertain us, by a representative of the Rotary Club, who wanted me to speak at noon, and by several reporters, who wanted a story of our trip.

Since we had promised to be home on September 19th, there was not a minute to lose. By seven-thirty in the morning we were tied up to the dock and taking in a thousand gallons of fuel oil and three hundred of water, the former largely for ballast aft. When the Bowdoin is in right trim, she laughs at rough water, and this one can easily meet off the Nova Scotia coast in late September.

My crew rushed uptown for hair cuts, clothes, fresh fruits, ice cream, sodas, and other things which they had missed for a year, with orders to be back promptly at ten o'clock. Fair wind down the harbor and out as far as Scatari Island, where we encountered a strong southwest head wind and rough sea. The barometer was now dropping rapidly and the wind gradually changing more to the eastward, or east'ard as we say at sea.

At 2.30 A.M. on Thursday we passed the Sambro Island light buoy, running before a northeast gale. By eight o'clock the weather looked so threatening that we shortened sail to jumbo and foresail. It was a question whether to lay-to or run. Here was an excellent opportunity for us to test the seagoing qualities of the Bowdoin, as yet untried dead before the wind in a sea of this size. We squared her off. There were times when it seemed certain that our decks would be swept from stern to bow. The next morning at breakfast, Bill, the cook, who had sailed in many a Gloucester fishing schooner, exclaimed, 'You needn't be afraid of this one, sir, she'll always take you home!'

And home was just ahead. Early in the afternoon Monhegan lay as a dark cloud on the water. The sun sank lower and lower and finally dipped behind the trees on the top of the island. So natural to be arriving home at the end of the day to be greeted by the welcome flash of the light, at the base of which we knew our friends to be standing, friends and relatives who had been watching for hours eagerly scanning the eastern horizon for the sight of a sail!

Following an eventful evening in the dining-room of Monhegan's best hotel, they were all with us the next morning on the deck of the Bowdoin bound for the home port of Wiscasset. As we rounded the last point of the beautiful Sheepscot River and brought the town into view, church bells were ringing and whistles blowing — our welcome home!

Following the exercises on the Common, our cabin seemed strangely quiet as we packed our well-worn clothes, each man busy with his thoughts, since each garment recalled some interesting incident of the North.

And now we bid good-bye to our staunch little ship, strip her of her sails, close the cabin doors, knowing that a winter is but a day, and to-morrow, when spring suns thaw the snow from her decks, we'll be back and once more headed North.

THE END

LEAVING THE LAND OF THE MIDNIGHT SUN

BEATING TO WINDWARD HOMEWARD BOUND

SIGHTING THE CAMDEN HILLS

APPENDIX

APPENDIX

I

BIRDS OF THE NORTH

Ornithology is one of the most interesting branches of scientific work in the North. After a long, cold dark winter in an apparently dead white world, the discovery of a wheeling white dot high in the heavens is the important event of the year. The Burgomaster, or Glaucous Gull, is the herald of spring.

Birds, in themselves, are of intense interest to the lovers of the 'Great Out-of-Doors' — increasingly so with the years. I am inclined to believe this interest is heightened with us in the Far North because of the fact that these birds are arriving daily from the land beyond the southern horizon. They are messengers from home!

And not only from home, but from lands thousands of miles south of our home, from Florida, the West Indies, South America, yes, even from its most southern point, Patagonia! Why this long flight of some eleven thousand miles to lay one egg? We wonder. Perhaps because æons ago here was the home of that bird. Love of home, instinct, call it what you will, on they go by millions up through the United States, up through Canada, over the ice fields of Hudson Bay and Labrador, over the great ice-covered lakes of Baffin Land, the stretching ice fields of Baffin and Melville Bay, braving cold, wind, fog, rain, and snow, back to the home where they were born, a slight depression in the moss, a crack in the rock, a narrow shelf a thousand feet above the sea.

How pitifully small our own travels and how little we have seen! My imagination runs riot when I think of the spring and fall migrations of the birds. However much we love the North, our life there would be a bit dreary without the birds. We look for them in the spring, we enjoy them during the summer, we miss them when lakes begin to skim and twilight creeps over the land.

This list includes all birds seen and positively identified by me within twelve degrees, or seven hundred and twenty miles, of the North Pole.

1. *Gavia immer.* Loon. Great Northern Diver. Breeds in Whale Sound, also Inglefield Gulf, on shores of lakes and ponds. Nest, a slight depression in the moss within a few feet of the water. Peary often related to me how excited he became some years ago in Inglefield Gulf. An Eskimo came walking over the hills with a loon he had just killed. Peary thought he had rediscovered the Great Auk, a bird which has been extinct for at least seventy years.

2. *Gavia stellata.* Red-throated Loon. Wabby. Cobble. Known to the Eskimos as Kak-sau. A very common bird all through Labrador, Hudson Bay region, Baffin Land, Ellesmere Land, and Greenland. I have found its nest and eggs at the edge of the Polar Sea on the northern shores of Grant Land, four hundred and fifty miles from the North Pole.

3. *Fratercula arctica naumanni.* Large-billed Puffin. This handsomely colored but grotesque-looking bird was very common in the waters about Etah, the site of our winter quarters in 1913–17, and was frequently seen at Refuge Harbor, fifteen miles north, in 1924. Its most northern nesting-place I believe to be Hakluyt Isle at the mouth of Inglefield Gulf, 77° 30′ North Latitude. Here I found it breeding in large numbers in 1917. Another favorite nesting-site is Ak-pat, or Ak-pani, as the Eskimos say, in common with Brünnich's Murre, some thirty miles north of Cape York near Cape Dudley Digges. I have also found them nesting on Wolstenholme and Saunders Islands.

4. *Cepphus mandti.* Mandt's Guillemot. Sea-Pigeon. Eskimo name, Silgh-wha. Very common from Cape York, 76° N., to Cape Union, Grant Land, 82° 18′ N. Nests in cracks of cliffs from the water edge to a height of at least eight hundred feet. Eggs, 1–2; June 10, Etah. Young seen in the water August 10. With the possible exception of the Little Auk, or Dovekie, this bird is the sprightliest, happiest, most active bird in the Arctic. Its shrill rather plaintive whistle is heard all up and down the coast. Dabbling, diving, and perking its head, skittering from the water with pattering red feet, this trim bird is found in nearly every open pool and all along the edge of the ice. With a rush it is off with rocking body, but it soon returns with a graceful sweep, outstretched feet, and happy-go-lucky splash. A lover of the North and unmindful of violent winds, stormy seas, driving snows, and freezing slush, the Sea-Pigeon remains until darkness creeps over the sea — how much longer, we do not know. I have seen it late in the fall in the semi-darkness and early in the

spring in the increasing twilight. Ten of these birds were seen by my party when crossing Smith Sound on February 14, 1914, when the temperature was –54° F. Many and many a time it seemed to be the only animate thing, outside of our dogs and ourselves, in that frozen world. We blessed it for its presence.

5. *Uria lomvia lomvia.* Brünnich's Murre. Eskimo name, Ark-pa. A very valuable bird to the Smith Sound Eskimos, its flesh being used for food, and its skins for clothing. It breeds in large numbers all along the west Greenland coast as far north as 80° North Latitude. In certain places such as Ak-pat, Saunders, Wolstenholme, and Hakluyt's Islands, these birds are caught with dip nets in large numbers, cached uncleaned under the rocks, and eaten raw all through the winter night. When entertaining visitors, white as well as native, in their homes, the Eskimos offer this food as one of the delicacies of the North. During the summer months this bird has a very peculiar weird note, a rattle in the throat, quite unlike any sound uttered by the bird in our waters during the winter. Large numbers of young seen in the water with their mother about August 20th.

6. *Alle alle.* Dovekie. Sea-Dove. Little Auk. Bull-Bird. Ice-Bird. Rotge. Rotchie. Rotch. Sea King. Pine-Knot. Eskimo name, Arq-pud-e-arq. Breeds from 68° N. to Anoritok, 78° 40′ N. Arrives at Etah about May 15. Nests in crevices of sea cliffs in company with Guillemots, in the rock débris at the base of a cliff, or on a slope, by the sea, bay, lake, or river-bed; it is even found nesting inland at distance of a mile and at a height of a thousand feet. Eggs, 1; weight, 1 ounce; date June 18. Two eggs occasionally found in nest, possibly eggs of two birds, but not always, as two well-developed eggs are often found in the body of a bird. Young obtained from the nest July 21. Seen swimming August 14. Average weight of bird 5.2 ounces. The nest of this bird is about as simple as a nest can be, consisting merely of a slight depression, but now and then containing pebbles and a few bits of dried grass. This is the almost all-important bird of the Smith Sound Eskimos, highly valued as food and its skin used for clothing. I can easily understand its being credited with saving the lives of many of the inhabitants of a far northern village. When southerly winds prevail and ice packs in on the shore, preventing the use of kayaks, when strong northern winds creep down from the ice cap and render their little boats unsafe, with a consequent loss of walrus, narwhal, and seal meat, food is behind them on the talus slope — the Arq-pud-e-arq.

Great flocks wheel and dip and swing low, fairly skimming the tops of huge boulders fallen from the cliffs above. At times like gigantic swarms of mosquitoes, and then, as they wheel and turn their white under sides to the sun, for all the world like snowflakes. Truly one of the sights of the North, the Dovekies in their summer home. And no sound is quite so pleasant in the Arctic as that volume of trilling notes coming from a multitude of throats, now loud, clear, increasing, now low, faint, diminishing — wave upon wave of music.

7. *Stercorarius parasiticus.* Parasitic Jaeger. Bosun-Bird. Teaser. Jiddy-Hawk. Eskimo name, E-shing-wa. The Jaeger is not a common bird beyond 78° N. I have seen it, however, as far north as 83° on the northern shore of Grant Land. When sledging from Lady Franklin Bay, 81° 40′, northwards to the S.S. Roosevelt, at Cape Sheridan, on June 26, this bird swooped down so close to my head that I ducked to avoid the wings. This swift and very bold attack led to the discovery of one nest containing two eggs, some twenty yards distant from the ice foot. The nest was merely a slight depression in a dark reddish gravelly soil.

8. *Sterocorarius longicaudus.* Long-tailed Jaeger. Buffon's Skua. Much more common than species above, and even as far north as 83°. Specimen secured by us at Cape Sheridan, northern shore of Grant Land, on July 1, 1909.

9. *Pagophila alba.* Ivory Gull. Ice-Partridge. Eskimo name, Now-ya-wah-o. Very common in Smith Sound, Kane Basin, Kennedy and Robeson Channels, as far north as 82° 30′ N. Fully formed egg obtained from body of bird June 30, 1914. Breeds on cliffs on eastern side of Kennedy Channel from 79° to 80° N. Feeds largely upon the excrement of seals and walrus; also upon remains of seal left on ice by polar bears, and upon refuse of animals left by Eskimos. Whenever we cut up walrus upon the drift ice of Smith Sound, the Ivory Gull appeared, and, alighting within a few yards, waited patiently for its share of the meat. The young are seen in September with dark markings on breast and on tail feathers.

10. *Rissa tridactyla tridactyla.* Kittiwake. Lickelels (Labrador). Pug (Cape Cod). Eskimo name, Tah-tah-ra. Common as far north as 82° 30′. Breeds at numerous localities in Smith Sound, but not north of Etah, 78° 20′ N. There are many peculiar customs among the Smith Sound Eskimos and one is connected with this bird. Until recently the head of the bird was

sewn into the clothes of a female child as an amulet to ensure giving birth to small children, since the egg of this bird is small in proportion to its size. The Kittiwake with one exception, the Fulmar, is the most common bird in Baffin Bay when we are sailing south in August and September. Large numbers of young, beautifully marked, are encountered daily.

11. *Larus hyperboreus.* Glaucous Gull. Burgomaster. Colonel. Eskimo name, Now-ya. The most common gull in the Far North. Breeds on cliffs throughout whole extent of coast-line from Cape York, 76° N., to 82° 30′ N. Arrived at Etah May 10, 1914; May 7, 1915; May 13, 1916; May 15, 1917. Upon ledges and islands, where in general there is need of no protection from foxes, nests are placed among those of eider ducks and are easily accessible. Upon the mainland we find them upon cliffs to the height of a thousand feet. The tops of isolated or outstanding pillars, sometimes called 'chimney rocks,' are always preferred to narrow ledges. In the nests is sometimes found one Brant's or one Eider Duck's egg. Old nests are remade by being pulled apart and new material added, such as grass and moss. Time of laying depends much upon snowfall and dry condition of nest. I found eggs hatching on July 1 at Etah. Ten feet away there was a nest containing eggs perfectly fresh. Eggs, 2–3; June 8, 1917. Young leave nest August 18–31. Old birds leave Etah and vicinity about September 1. Young congregate and remain feeding at mouth of streams until October 31. The Glaucous Gulls feed upon Dovekies, Eider eggs, young Eiders, lemming, sculpin, and trout. Dovekies, or Little Auks, are often seized in mid-air and swallowed whole into the lower throat. Here the bird remains until the flesh is digested. The pellet, consisting of head, feet, wings, and skin entire, is disgorged.

12. *Larus argentatus.* Herring Gull. A rare species north of Cape York. Never seen north of Etah. I believe its most northern nesting-place to be at Ittibloo in Whale Sound, 77° 25′ N.

13. *Xema sabini.* Sabine's Gull. Specimen secured on northern shore of Grant Land on July 8, 1909, Lat., 82° 30′ N. Fairly common at Etah during June, July, and August, but no nests or eggs discovered. Eskimos assert that this bird does not breed in this section. I note that a nest was found on the northeast coast of Greenland containing two eggs.

14. *Sterna paradisæa.* Arctic Tern. Sea-Swallow. Eskimo name, E-muck-ko-tail-ya. Found nesting on the northern shore of Grant Land on July 7, 1909, Lat. 82° 33′ N. Nest, slight de-

pression on a gravelly beach three feet from high-water mark, contained one egg only. Very common during our four years at Etah, flocks continually passing north and south past Sunrise Point. Eskimos inform me that it nests in large numbers at head of Inglefield Gulf and also on small, low islands in Whale Sound, but in no way comparable to the large numbers observed by us on small grass-covered islands just south of Sukkertoppen.

15. *Fulmarus glacialis glacialis.* Fulmar. Whale-Bird. Molly. Mollimoke. Mallemuke. Noddy. John Down. The most common bird at sea when we are sailing northward through Baffin Bay and Davis Straits, called by my crew 'Wooden Wings,' because of the straight, stiff manner in which the bird holds its wings when gliding low over the tops of waves and down into the hollow of a sea. The Molly is a real sailor, with a sailor's love for the sea. She attends us in fair weather and foul, watching for scraps from the galley. Both light and dark phases of this bird were very common at Etah and at our winter quarters at Refuge Harbor as late as September. Found breeding at 76° 35′ N. Several of these birds were seen by us in July when four hundred and fifty miles from the Pole. I have seen the bodies of dead whales literally covered with these birds, tugging and tearing at the flesh.

16. *Nettion carolinense.* Green-winged Teal. Extremely rare in the Far North. During our more than six years' sojourn within twelve degrees of the North Pole, we have seen two of this species only, a male and female. That they were strangers to our native companions was very evident by the exclamations of wonder and surprise; they had never seen the bird before!

17. *Harelda hyemalis.* Old-Squaw. Long-tailed Duck. South Southerly. Hounds. Old Injun. Eskimo name, Ugley. A Far Northern bird and one of the hardiest. Very common on the northern coast of Grant Land at the edge of the Polar Sea, where I found it nesting on June 28. Nest contained five eggs. To many a lover of nature the peculiarly wild, baying note of this bird, coming from a multitude of throats, is far more soul-stirring than the honk of Wild Geese. And how beautiful in their breeding plumage! And how erect the long tail feathers of the male as he fairly struts through the water and circles around his lady love! When winter has gone and warm sunlight plays on southern slopes, causing snow-banks to drip and rivulets to run, we look out to sea for black specks against the blue. Days go by, and

then a day without a fault, ice fields glittering in warm bright sunlight, the sea a molten bed of silver, the air perfectly still, and then, that far distant, unmistakable, musical cry: 'Calm-all-day,— Calm all-day,— Calm-all-day.' The Old-Squaws have arrived!

18. *Somateria mollissima borealis.* Northern Eider. Sea-Duck. Eskimo name, Mee-tik. This species is so common and has such a wide range that it might justly be called the representative bird of the Far North. It is found all along the Baffin Land, West Greenland, and Ellesmere Land coasts, even at the edge of the Polar Sea along the northern shores of Grant Land. With the exception of the Dovekie, it is the bird most valued by the Smith Sound native, large numbers being cached during the summer months for the long winter night. The Dovekie weighs but 5.2 ounces; lays only one egg, weight, 1 ounce; the Eider weighs 3¼ pounds; lays from five to nine eggs, weight, 3¼ ounces. A visit to an Eider Duck island is one of the experiences of a lifetime. A heavy flapping of wings and a dark, grayish-brown body shoots out almost from under one's feet; now another — another, and away they go from all parts of the island. Eggs everywhere! Here two, there four, a little beyond three, and behind that rock six. We have picked up four thousand fresh eggs from one island in a few hours upon our first visit the last week in June. Within three days two thousand more were waiting to be collected. This number was our winter egg supply. Cached under the rocks and protected from the warm rays of the sun, they remained chilled and perfectly fresh until frozen in early September. And here they can be found, unless stolen by the white or blue fox, deep under a snow-bank in the middle of the Arctic night. I recall the picture — bright moonlight night, rough sea ice stretching away in every direction, low black and white island, rocks and huge snow-banks, the sledge and sleeping dogs, a fuzzy fur-clad figure on all fours in the snow pawing out frozen eggs with a huge bearskin mitten. The Northern Eider arrives at Etah about May 1, and remains long after the sun has left. When bays and harbors are covered with ice and the twilight of the moon deepens into darkness, the young Eiders, now strong and with wings fully feathered, are ready for their long flight southward. A few only, born very late in the season, remain — and remain forever, for we have found them frozen into the ice field.

19. *Somateria spectabilis.* King Eider. The King Eider ar-

rives in the Far North with the Northern Eider and associates with it, and, I believe, breeds upon the same islands. The females of these two species so resemble each other that I was never able to identify the nest and eggs of the King Eider, since eider eggs vary considerably in size and color. I have examined and measured at least a thousand. One of our best authorities publishes the measurements of the egg of the Northern Eider as 2.95 by 2 inches. In fact the eggs vary in length from 3.25 to 2.75 inches, in breadth from 2.15 to 1.90 inches. The male of the King Eider is without question the most strikingly beautiful bird in the Far North, especially in breeding plumage. The delicate shading of bluish-gray into pale green into creamy buff, predominated by black and white, is exquisite, and is worthy of the best efforts of a colorist. The males are instantly and easily distinguished as a great flock of mixed Eiders sweeps along the shore to its feeding ground.

20. *Chen hyperboreus nivalis.* Greater Snow Goose. This bird undoubtedly nests north of 76° between Cape York and the great Humboldt Glacier. It is known to all Eskimos of the Smith Sound tribe, but as far as I can learn not one has ever found an egg. It probably nests inland on the shores of the numerous ponds and lakes between the Greenland Ice Cap and the sea. A flock of ten arrived at Etah June 10, 1917. After circling around the fiord they flew up over the thousand-foot hills and headed northward.

21. *Branta bernicla glaucogastra.* Brant. Eskimo name, Nugluq. A Far Northern bird. Seen on the northern shore of Grant Land, 82° 30′ N., in June 1909, and eggs secured. Large flocks of these birds arrive in water of Etah about June 1. Most of these birds continue northward. A few remain and rest on Littleton, Eider Duck, and Sutherland Islands in company with the Eider Ducks, the nests being within a few feet of each other. Eggs, 4–6. Date, June 14–20. Young were found hatching at Sutherland Island on July 13, 1916. A flock of about thirty males were discovered on this same date moulting and unable to fly. The nest of the Brant is similar in construction to that of the Eider Duck, with the exception of the down out of which the nest is made, which is a shade lighter in color.

22. *Phalaropus fulicarius.* Red Phalarope. Sea-Goose. Bank-Bird. Whale-Bird. Very common throughout the Smith Sound region. Observed as far north as 82° 30′. Found nesting at Life Boat Cove, a few miles north of Etah. Nest between two rocks

on a low, rather flat point of land dotted with numerous small pools of water. Eggs, 3; date, June 27, 1916.

23. *Tringa canutus.* Knot. Robin Snipe. Beach Robin. Gray-back. Red-breasted Sandpiper. Ash-colored Sandpiper. Eskimo name, Ting-may-tee′a. Very common on eastern and western shores of Smith Sound, as far north as 82° 30′. Two nests containing three eggs each found by Peary Polar Expedition on July 1, 1909, at Cape Sheridan, northern shore of Grant Land. Two nests of three and four eggs found by Crocker Land Expedition at North Star Bay in June, 1917. The nest which was found in Grant Land was merely a depression in gravelly soil on rolling ground about one mile from the sea.

24. *Arquatella maritima maritima.* Purple Sandpiper. Rockweed Bird. Rock Snipe. This bird was often seen in spring and fall at Etah, but not during summer months. Observed also at Cape Sheridan, northern shore of Grant Land.

25. *Pisobia bairdi.* Baird's Sandpiper. Found nesting at Life Boat Cove, July 1, 1916. Also at Rensselaer Harbor, June 28, 1916. Eggs, 3. Young seen around shores at Etah, September 2, 1916.

26. *Ægialitis hiaticula.* Ringed Plover. This Old-World species was very common on hills bordering the sloping shores of Life Boat Cove to Cape Hatherton. Nest, a slight depression in gravelly soil lined with small pebbles. Eggs, 3; date, June 30, 1916.

27. *Arenaria interpres interpres.* Turnstone. Calico-back. Chicken Plover. Rock Plover. Brant-Bird. Checkered Snipe. Red-legged Plover. Very common at Etah from June 1 to September 1. Common at Lady Franklin Bay in August, 1901. I was interested in seeing a large flock alight upon the water in Kennedy Channel. Seen frequently along northern shores of Grant Land in June, 1909.

28. *Lagopus rupestris reinhardi.* Reinhardt's Ptarmigan. Eskimo name, Ah-kuck′sha. Common at Etah in spring and fall migration. Not seen in July and August. Undoubtedly many remain in the Far North throughout the year. Seen on March 19, 1914, when we were crossing the Beitstadt Glacier of Ellesmere Land at a height of forty-seven hundred feet, with a temperature of –50° F. Also seen on March 30, 1914, in Eureka Sound at 79° 15′ N. Recorded by me at Ward Hunt Island on most northern coast of Grant Land, 83° 7′ N., on March 21, 1909. Shot at Etah on February 13, 1916, five days before the return of the sun.

These birds pick through the crust of snow with their bills, then clear away loose snow with their feet in order to uncover willow buds. The breeding-note in April resembles very much the sound of a policeman's rattle. Nesting date early in June.

29. *Falco islandus.* White Gyrfalcon. Speckled Partridge Hawk. Eskimo name, Ka-she′we-a-how. Arrives at Etah about May 1. Found nesting on vertical cliffs from a height of thirty to a thousand feet. As far north as Cape Sheridan, 82° 30′. Nesting dates, at Force Bay, May 27, 1919; May 31, 1917; Etah, June 7, 1917. Eggs, 4. Young taken from nest at Etah on August 16, 1908; August, 1915. Young seen flying September 1, 1916. Feeds upon Eider Duck, Mandt's Guillemot, Ptarmigan, Arctic Hare, and Dovekies. The last are carefully picked, decapitated, wings bitten off, and body swallowed. When the meat is digested the bones are disgorged.

30. *Nyctea nyctea.* Snowy Owl. Eskimo name, Ook-pik. Rarely seen at Etah. Common at Cape Sheridan on northern shore of Grant Land during the light period. Nest found July 5, two miles from coast on the summit of a projecting mass of rock above a river-bed. Contained four young, surprisingly unequal in size, and two eggs. Remains in the Far North throughout the year. Seen at Floeberg Beach by Nares Expedition on March 29, 1876. Food consists of lemming, Ptarmigan, and Arctic hare. Necessarily diurnal in habits during the long light period, but more active as the sun swings low in the north. Bright sunshine affects its sight but little, if any, as shown by the fact that the Arctic Owl is extremely wary and difficult to approach within gun-shot. During the dark period its sole food must be the Arctic hare, which are very numerous in North Greenland, Ellesmere Land, and all lands west.

An extract from my field journal: '*November* 17, 1915. When driving around Cape Kendrick to-night in a regular blizzard — drifting snow, heavy wind, temperature –30° F. — my dogs suddenly leaped ahead, dashed right, then left, stopped, and began to fight. To my astonishment, they were tearing a hare to pieces. As it is well known that no dog could possibly capture an Arctic hare, I was puzzled for a moment. It is the opinion of the Eskimos who were with me that an owl had captured the hare and was eating it upon the ice as we arrived. The mad dash of my dogs from place to place was in pursuit of the owl and his six to eight pound burden.'

31. *Corvus corax principalis.* Northern Raven. Eskimo name,

Tood-a-waq. During the early spring and summer months the Raven is found as Far North as land extends (Lat. 83° 40′). Winter resident at Etah. Majority migrate south about September 15. Nests about April 16 on cliffs. Nest often inaccessible. Young found in nests near Etah June 3 and June 15. Seen flying August 25. Food during winter months consists of excrement of dogs, foxes, wolves, and Arctic hare. From May 15 to September 1 the Raven feeds largely upon Dovekies, which are singled out from the flock, pursued and captured in the air, or driven exhausted to the ground and to the surface of the fiord ice. The nests of the Eider Duck also suffer from the depredations of the Raven, which jabs its lower bill through an egg and carries it to its nestlings on the cliff. Considered good eating by the Smith Sound Eskimos.

32. *Acanthis hornemanni hornemanni.* Greenland Redpoll. Rare at Etah. Two flocks of about ten each seen at Sunrise Point on August 1, 1916. Specimen obtained September 5.

33. *Plectrophenax nivalis nivalis.* Snow Bunting. Eskimo name, Kop-a-noo. Found nesting on northern shores of Greenland and Grant Land. Nest of grass, moss, and feathers under and in crevices of ground rocks. Eggs, 4–7; date, June 19. This bird arrived at Etah about April 15. Remained until November 1. One heard by me at Nerky on November 12. The Eskimos declare that a few remain all winter. Very musical during the breeding-season.

34. *Saxicola œnanthe leucorhoa.* Greenland Wheatear. Migrates in spring to the edge of the Polar Sea. Arrives at Etah about May 20. Nest, in construction and location, similar to that of Snow Bunting. Date, June 15. Eggs, 5. Young found in nest July 3, 1916. Young seen flying on August 5, 6, 7.

35. *Haliœetus albicilla.* Gray Sea Eagle. I add this bird to the list because it nests at Cape Seddon in Melville Bay, the most southern settlement of the Smith Sound Eskimos.

II

THE SPEECH OF THE SMITH SOUND ESKIMOS

The Smith Sound Eskimos were discovered by Captain John Ross in 1818. Just how long they have occupied that stretch of coast line between Cape York and Etah no one knows, but certainly one thousand years, since the Eskimos who were seen by the Norsemen in South Greenland in 982 must have migrated from this section.

That the language of this isolated tribe is practically the same that we find in Labrador, Baffin Land, and South Greenland is of very great interest to the reader of Arctic literature and to the student.

Necessarily all material things imported by the white man are designated by different terms in different tribes, for a thing is named according to some characteristic of that thing, such as its color, size, weight, feel, smell, taste, and general resemblance. As an illustration, the Eskimo word for vest is really a 'sweating machine'; the word for pocket knife, 'that which shuts up like a trap'; the word for sugar, 'that which is like sand'; the word for watch, 'that which follows the sun around'; the word for comb, 'a machine for untangling the hair'; a puzzle, 'a thing that cannot be done'; a block, 'a pulling machine,' etc.

From my list of some two thousand words, I am selecting and submitting for your interest and comparison the following, although I fully realize that it is absolutely impossible to produce many of the more intricate sounds of that Eskimo tongue with the use of the twenty-six letters of the English alphabet. The successful spelling phonetically of many Eskimo words can only be accomplished by additional characters; therefore, in this list, I am avoiding the more difficult and recording the more simple.

Anglo-Eskimo Vocabulary

Abed — eeg-lul′me
Able — sah-ping-ee′tok
Aboard — oo-me-ark-suah′me
Above — ko-dah′ne
Abundance of meat — ne-kaut-tee-tok′swee
Across — ak-i-go-ah-gah′

Adrift — aud-lock′a-ho
Again — a-too′do
Again, again! — a-too′a-too
Again, do it! — a-too′do-kah′
Ago, a little while — oo′tee-ah′
Ago, a long time — immany-dwark′suah
Ahead, straight — see-voo-moot′
Air — sila
Alive — oo-ma-howk′suah
All — ta-ma′sa
All — ta-mau′me
All gone from here — ta-ma′ne-ing-e′to-su′ah
Alone, I am — innoo-too-wang′a
Always — shoody
Ammunition — ee-lew-dick′sha
Anchor — kissaut′
Angry — kay-ping-yoo-nark′tok
Appear, they — alle-ka′put
Appears — allekapok′
Approaches, he — kag-lin-e-a-duck′pok
Arm — ted′da
Arrow — kark′so
Ascend a hill — mi-yoo-ark′tok
Attack a boat (walrus) — too-dok-shark′tok
Aunt — ah-gah′
Aurora — ak′sark
Autumn — o-kee-al′me
Awake, he is — too-puck′tok
Awake, I am — too-pak-tung′a
Away, far — tah-wung′ah
Away, I see far — tark-pee-shung′a
Away, take it — pee-a-roo′
Babies — na-lung-i-ars′su-it
Baby boy — ang-o-ting′wa
Baby girl — al-ning′wa
Bachelor — noo-ka-pish′it
Bear — na′nook
Bear cub — ah-tuck′ta
Beard — oo′mick
Beard, my — oo-mi-kah′
Beard, your — oo-muck-tin′
Bearded seal — uk′juk

Bed — eeg′la
Bed, go to — in-ne′in
Bed, had he gone to — in-nul-e-ark′to-kah′
Bed, I am going to — inna-ac-tung′a
Bed, in the — eeg-lul′me
Beneath — ah-tah′
Berg — illoo-lee′ark
Beyond — o-wa-tah′ne
Bird — ting-mee′a
Black, it is — klul-nuck′tok
Blanket — klay′pick
Blood — au
Boat — oo-me-ing′wa
Boot — ka′mik
Boy — noo-ka-pee′aq
Boy, large — noo-ka-pee-ark′sha
Boy, small — noo-ka-pay′teer
Bread — nee-dul′na
Brow — kauk
Button — ah-no-ark′tood
Cache — kling′na
Cap — nee-hed′da
Cap — nee-hed-doo′ah
Cap like a — nee-a-doo′sha
Children — perapa′luit
Chin — teb′loo
Cliff — im′nark
Cliff, big — im-nark′suah
Cliff, on the big — im-nark-suah′me
Clothes — an′no-rat
Cold — ik′kee!
Cold, are you? — ik′kay-a-yook-too′tin?
Cold, it is very! — ik′kee-a-noc′toq!
" " " " ik′kee-a-nock′to-suah′!
" " " " it-sing′a-hok!
" " " " ikke-a-nah-dwah′!
Comb — ig-lay-oo′tin
Comb, my — ig-lay-oo′ti-ka′
Comb, your — ig-lay-oo′ti-tin′
Come — kai′git
Companion — i′pah
Cornmeal — ee-tuck-kow′a-ta

Cover — mut′too
Dance — ka-teek′tok
Daughter — pa′nik
Daughter, his — pa-nee′a
Daughter, my — pa-nee-ga′
Daughter, your — pa-neen′
Day — oov′loot
Day, every — oov′loot tamai′sa
Dead, he is — to′ko-wok
Dimple — karg′loo
Dog — kli′mik
Dog harness — ah′noo
Dog harness (2) — ah′nook
Dog harness (plural) — ah′nun
Dog king, my old — ee-tok-a-tee′a
Dog king, your — ee-tok-a-tit′
Dog meat-box — klimik′ping
Dried meat — neek′koo
Duck, eider — me′tik
Duck, eider, king — mee-tee′we-a-how
Earth — nu′na
Eggs — mun′nee
Eskimo — In′nuk
Eskimos — In′nuit
Eskimos, many — In-yook-suit′
Eskimos, my — In-yoo-ko′tikah′
Eye — i′she
Face — kee′na
Face, my — kee-na-gah′
Face, your — kee-nin′
Female — ahl′na
Flint — ahng′ma
Fox — teriang′naq
Friend, I am your — noo-a-nah′sook-tung′a
Friend, my — noo-ah-ni-ee′ga
Friend, who is your? — kee′na-noo-a-ni-e′?
Friend, you are my — noo-a-nah′sook-too′tin ,
Frost — kah′nil
Frozen — kli′a-shaw
Frozen meat — ah-ma-houk′suah
Go away, I — aud-la-pung′a
Go away, I shall — aud′lay-ark-tung′a

Going home, I am — aug-ood-lay′ae-tung′a
Gone away, has he? — aud-la-ka′?
Grass — ee-wick′she
Grave — ee′dee-wuq
Gray, it is — ki-ko-e-ark′toq
Hair — noo′ya
Happy, I am — si-ma-shung′a
Hard — mung-yuck′toq
Harmonica — hoop-oo-o′tit
Head — ni′aqoq
Heavy — oka-nee′toq
Here it is — oo-wun-ee′toq
Home, rock — ig′dloo
Hot — oo-nark′toq
House, a good large — igd-loo-tee-ark′suah
House, a good small — igd-lung′wa
House, I am building — igd-loo-he-ke-hung′a
House, I shall build — igd-loo′e-kee-e-ark-tung′a
House, snow — igd-loo′e-aq
House, snow, in his — igd-loo-e-ah′ne
House, snow, in your — idg-loo-e-ahl′ne
House, snow, your — igd-loo-e-kit′
Ice — see′ko
Knife — sa′vik
Knife, my — sa-vi-kah′
Knife, pocket — ishe-ma-hark′tood
Knife, pocket, my — ishe-ma-hark-too′ka
Knife, pocket, your — ishe-ma-hark-too′kin
Knife, your — savik-shin′
Knot — nok′loo
Lake — tesl
Land — nu′na
Land, a large — noo-nark′suah
Land, a small — noo-nung′wa
Land, from the — nu-na-mit′
Land, on the — nu′na-me
Land, through the — nu-na-kut′
Land, to the — nu-na-mun′
Laugh, I — eeg-lark-tung′a
Laughing, why are you? — sho-eeg-ledda-kein?
Leaks, it — ee-muck′toq
Leg — nee′oo

Lift-up — hee-wick-tee′ho
Like — ee-mah′
“ sor′loo
“ tai′ah
“ tai-ah′toq
“ tai-mah′toq
“ tai-mah′to-me
“ this — ee-mah-ing′na
Little, a — im-mung′wa
Little, it is too — mikki-loo-ark′poq
Little more — ah-tood-e-ching′wa
Long time ago — tai-men-nark′suah
Look — tah-koo′!
Look at it — tah-ka-wood-laut′
“ “ “ tah-kee-e′ya
Look here — tah-koo′na
Lose, I — tai-mark-tung′a
Lost, is it? — tai-ma-hah′?
Lungs — pu-ak′
Male — ang′oot
Man, middle-aged — oo-to-karh′suah
Man, old — ee′tok
Man, very old — ee-tee-dook′suah
Man, young — in-yoo-yook′tok
Many, how? — karf-si′ni?
Maybe — ai-shoo-ark′toq
Maybe so — een-you-ark′toq
Milk — ee′moo
Milk, I want — ee′mook-tok-a-hung′a
Mine, it is — awung′a pee′a
Mirage — poo-e-quark′to-shem′a-shoot
Mittens — ai-a-kut′te
Mittens, inside — ee′lee-paq
Mittens, my — ai-a-kut′ti-ka′
Mittens, your — ai-a-kut′ti-kin′
Moon — ah′ning-ahn′
Moon, full! — ah-ning-ark′suah-a-de-kuk-a-hjo′!
Mountain — kah′ka
Mountain, from — kah-kah′mit
Mountain, large — kah-kak′suah
Mountain, like a — kah-kak′toot
Mountain, on the large — kah-kak-suah′me

Mountain, through — kah-kah′kut
Mountain, to — kah-kah′mut
Mouth — kah′nil
Mouth, corner of — elk′e
Mouth, roof of — klay′luck
Mouldy — oo-kok′toq
Mouldy, very — oo-kok′suah
Much, it is too — pee-loo-ark′poq
Musk-ox — oo-ming′muck
Nail — kee-kee′ik
Nail, finger — koo′kin′
Name — ah-ting′a
Name, what is its? — ka′nok-a-ting′a?
Name, what is your? — ka′nok ah-til-ah′pin?
Near — kone-ting′wa
Necklace — toog-laut′
Needle — merk′ut
Needle, large — oo-do-ned′dy
New — noo′tarq′
North wind — ah-wing-mik′so
“ “ ah-tawn′na
Nose — kling′a
Nose, my — kling′ah′
Nose, your — kling-nin′
Now — tes-shing′wa
Old man — ee′tok
Old man, very — ee-tee-dook′suah
Patch — ang-nee′le
Perhaps — ai-shoo-ark′toq
Perhaps — im′ma-ha
Pillow — ah′hee-hee′
Pipe — poo′yoot
Pipe, my — poo-yoo′tee
Pipe stem — king-me-shauk′wick
Plays, he — ping-you-ark′toq
Point — noo
Point, from the — noo′mit
Point, on the — noo′me
Point, to the — noo′mun
Poor in flesh — sha-dook′toq
Poppy — ark-pow′a-sha
Puppy — king-me-rars′suk

Puzzle — ai-uk-swee-towt′
Quiet — oo-ka-dung-nee′toq
Quilt — klay-pick-shah′
Raven — tood′e-wuq
Red — auk-pa-deek′toq
Red hot — ah-mauk′toq
Reindeer — tuk′too
Ribs — suck-kee′a
Ride, I — ik-shoo-ma-hung′a
Right, is it? — nah-muck′pa?
Rinse, I — me-shook′ta-hung′a
Rip, I — kee-loo-ark-tung′a
Rising heat — we-a-mul′e-ah-dah′
River — kook
Road — in′ning
Rock — we′ark
Rock on the — we-ah-kun′ne
Round — ang-ma-tok′a-sha
Row, I — powk-tung′a
Row, I shall — pow-e-ark-tung′a
Runners, sledge — pilt-lu′she
Sad — sai-mung-ee′toq
Sand — see′o-rak
Sculpin — kan′a-yo
Sea — ee′maq
Seal (*Cystophora cristata*) — net′tuck-suah′
Seal (*Phoca barbata*) — ook′juk
Seal (*Phoca greenlandica*) — ah′taq
Seal (*Phoca hispida*) — poo-is′se
Seal, did he kill? — ang-o-ka′?
Seal, did you kill? — ang-o-kait′?
Seals, he hunts — ang-oo′nee-a-dook′toq
Sealskin line — ag′loo-naq
Sealskin, white — kee-eek′ta
See them, I do — ishe-king′ee-kee′ka
See, what do you? — ka′nok ishe-vee′vok
Ship — oo-me-ark′suah
Shirt — ah-tee′
Shirt, under — ah-tee-shah′ne
Shore — tin-nil′na
Shore, on the — tin-nil-nul′me
Shovel — kah-don′

Shut the door — oo-mig′ly
Sick — who-yung′a-how
Sing, I — ing-muck-tung′a
Sing, I do not — ing′me-ang′e-tung′a
Sledge — ka′mu-tit
Sleep, I — see-nig-tung′a
Sleepy, I am — il-na-yook-tung′a
Smoke — poo′yok
Smoke, I — poo-yok-tung′a
Smokes, he — pook-yok′tok
Snow — ah′put
Snow bird — ko′pa-noo
Soap — oo-gwout′
Son — il-nah′
Son, his — il-ning′a
Son, my — il-nee-ga′
Son, your — il-nin′
Soon — oo′tee-a′
Spoon — ah-dook-saut′
Stomach — ah-kli-ah′o
Stone — oo′ja-rak
Stopper — sim-mee′a
Stove — ikke-mau′vik
Straight — to-ark′toq
Strong — pee-shark′suah
Sugar — see-o-row′sak
Sun — suk′ke-nek
Tent — tu′pik
Thread — ee-wid′doo
Walrus — ah′wik
Walrus tusk — too′gaq
What is it? — su-nau-na′?
Who? — kee′na?
Who are you? — kee-nau-veet′?
Whose? — kee′a?
Wind — ano′re
Window — e-a-dah′
Wings — ee-shau′
Yesterday — ik-puck′sha
Yesterday, day before — ik-puck-shah′ne

CONJUGATION OF TOOSAKPOK, HE HEARS

Indicative Mood

Affirmative

Present Tense

Singular

Toosakpoonga	I hear
Toosakpotit	thou hearest
Toosakpok	he hears

Dual

Toosakpogook	we two hear
Toosakpose	you two hear
Toosakpook	they two hear

Plural

Toosakpogoot	we hear
Toosakpose	you hear
Toosakput	they hear

Past Tense

Singular

Toosalaukpoonga	I heard
Toosalaukpotit	thou heardest
Toosalaukpok	he heard

Dual

Toosalaukpogook	we two heard
Toosalaukpotik	you two heard
Toosalaukpook	they two heard

Plural

Toosalaukpogoot	we heard
Toosalaukpose	you heard
Toosalaukput	they heard

Future Tense

Singular

Toosangneakpoonga	I shall or will hear
Toosangneakpotit	thou wilt or will hear
Toosangneakpok	he will hear

Dual

Toosangneakpogook	we two shall or will hear
Toosangneakpotik	you two shall or will hear
Toosangneakpook	they two shall or will hear

Plural

Toosangneakpogoot	we shall or will hear
Toosangneakpose	you shall or will hear
Toosangneakput	they shall or will hear

Negative

Past Tense

Singular

Toosalautyangelanga	I did not hear

Plural

Toosalautyangelagoot	we did not hear

Perfect Tense

Singular

Toosaksimatyangelanga	I have not heard

Plural

Toosaksimatyangelagood	we have not heard

Future Tense

Singular

Toosangneatyangelanga	I will or shall not hear

Plural

Toosangneatyangeleagoot	We will or shall not hear

THE LORD'S PRAYER

As used by the Moravian Missionaries of Labrador

Nalegak Gude, Atatavut kilangme!
Attit nertortaule. Nalegaunit kailaule.
Pijomajat piniartaule nuname sorlo kilangme.
Unvlome piksaptingnik tunnitsivigitigut.
Idluinivut issumagijungnaikit, sorlo uvagut
idluitullivigijivut issumagijungnaervigigaptigik.
Oktortaulungnermut pitinnata. Piulitigulle ajortomit.
Nalegaunek pitsartunerlo ananaunerlo pigigangne issokangitomut.

Amen.

III

MONTHLY TEMPERATURE AVERAGES

at Refuge Harbor, Greenland, 78° 31′ N. Lat., from September 1, 1923, to June 8, 1924

(All readings in Fahrenheit degrees)

	1923				1924					
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[1]
Average temperature....	23.4	7.0	−3.0	−15.6	−21.3	−25.3	−10.5	−2.8	27	33.6
Average daily maximum...	29.1	12.2	2.0	−10.5	−15.9	−22.0	−2.5	6.2	33.4	56.3
Average daily minimum...	17.7	2.9	−8.1	−19.1	−28.1	−31.2	−18.4	−11.4	13.7	22.5
Average daily range.......	11.4	9.3	10.1	8.6	12.2	9.2	15.9	17.6	19.7	33.8
Extreme maximum.......	38.2	30.0	36.0	1.0	15.5	2.0	13.9	38.0	58.2	56.3
Extreme minimum.......	8.0	−13.9	−19.2	−29.2	−42.0	−45.3	−42.0	−36.0	−13.0	22.5
Extreme range	30.2	43.9	55.2	30.2	57.5	47.3	55.9	74.0	71.2	33.8

[1] Only for first eight days of June.

As Refuge Harbor is but eleven miles north of Etah in latitude and has practically the same conditions, with the exception of prolonged and violent winds during the dark period at the latter place, a comparison of the above temperatures with our long four-year series taken at Etah during the years of 1913–17 is of interest.

I have asked one of my scientists, Mr. W. Elmer Ekblaw, now of Clark University, Worcester, Massachusetts, to submit what he considers to be of interest. I quote from his report to the American Museum of Natural History:

In all data recorded for Etah by the Crocker Land Expedition the extreme minimum temperature is reported to have been –42° F. In 1913–14 it was –36.2° F., occurring on March 13; in 1914–15 –42° F., occurring on March 10; in 1915–16 –28.8° F., occurring on February 1, and in 1916–17 –35.8° F., occurring on December 24, 1916. Thus the average minimum for a period of four years was –32.1° F., considerably higher than for interior

Canada or Siberia, much farther south. The ameliorating effect of the near-by sea is clearly revealed in this relatively high average minimum. The extreme maximum recorded for Etah by the Crocker Land Expedition was 63° F. For the summer of 1914, it was 61° F. on July 22; of 1915, it was 63° F. on July 1; of 1916, it was 53° F. on July 14 and 29; and of 1917, it was 57.5° F. on July 12 and 14. The average extreme maximum for the four years is thus but 55.3° F.

The range between the extreme minimum for the four years, and the extreme maximum was 105 degrees, a clear indication of the marine effect. The extreme range for 1914 was 97.2 degrees; for 1915, 89.2 degrees; and for 1916, 81.8 degrees. The average extreme range for the three years was 89.4 degrees. The lowest temperatures come in March; the highest in July. The lag of increase in temperature behind the return of the sun is a noticeable feature of all Arctic lands. Spring does not become evident in Thule until well into April. The extension of summer temperatures well into September and the lag of decreased temperatures behind the disappearance of the sun is distinct and characteristic. The most abrupt changes from month to month come between April and May when the temperature rises twenty degrees and between September and October when the temperature falls eighteen degrees. January, February, and March, the coldest months, vary less than four degrees in average temperature and but little in range. June, July, and August, the warmest months, vary about six degrees in average temperature and but slightly in range. July is the only month in which the average range lies quite above freezing.

The average daily temperature, the average daily and average extreme maxima, the average daily and average extreme minima, and the average daily and extreme range for each of the months of the year, as determined by the Crocker Land Expedition, are indicated in the table on page 275.

The sharp transition from spring to summer comes with the midnight sun or soon after. Then the sun is high enough in the sky at noon to produce a distinct heating effect during the middle of the day, an effect which is not wholly lost through the sunlighted night hours, even though no heat is added as long as the sun is low in the north. The cumulative increment of each day's warmth becomes quickly effective, and spring comes on apace.

June is considered by the Eskimo the most changeable month. They aver that the changeable and unpleasant weather is a bene-

MONTHLY TEMPERATURE AVERAGES

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
Average temperature....	−13.3	−15.8	−12.7	− 1.62	21.3	34.7	40.9	37.3	25.5	7.5	− 6.8	− 7.5
Average daily maximum.	− 9.1	−11.8	− 7.6	− 3.1	25.4	39.2	46.7	40.1	28.4	9.7	− 3.2	− 3.1
Average daily minimum..	−17.4	−20.0	−20.0	− 6.6	15.6	29.7	34.1	32.0	22.9	3.5	−10.4	−11.2
Average daily range.....	8.3	8.2	12.4	9.7	9.8	9.5	12.6	8.1	5.8	6.2	7.2	8.2
Average extreme maximum	7.9	4.0	10.3	20.0	40.0	53.2	58.6	53.6	38.6	28.5	11.7	11.8
Average extreme minimum	−28.2	−29.5	−32.1	−19.5	1.2	22.6	27.1	22.4	14.1	−7.3	−21.2	−27.5
Average extreme range...	36.1	33.5	42.4	39.5	38.8	30.6	31.5	31.2	24.5	35.8	32.9	39.3

ficent arrangement of Nature to keep the mother birds on the nest until the eggs are hatched; for June is the season of nesting birds in the Eskimo calendar; when June is over, real summer weather soon begins.

Spring comprises the period from the first appearance of the sun on February 21 to the first midnight sun on April 21, the period of lengthening day and shortening night. Summer is the season of continuous sunshine from April 21 to August 21. Autumn comprises the period from the first sunset at midnight on August 21 to the disappearance of the sun at noon on October 21, the period of shortening day and lengthening night. Winter is the season of total absence of sun, from October 21 to February 21. Allowing ten days for the effects of the disappearance and reappearance of the sun to become appreciable, spring may be considered to begin on March 1, summer on May 1, autumn on September 1, and winter on November 1. The seasonal daily and average extreme maxima, minima, and ranges, are indicated in the following table:

SEASONAL TEMPERATURE AVERAGES

	SPRING	SUMMER	AUTUMN	WINTER
Average temperature	− 7.2	33.6	16.5	−10.9
Average daily maximum	− 2.3	38.0	19.5	− 6.8
Average daily minimum	−13.3	27.9	13.2	−14.8
Average daily range	11.0	10.1	6.3	8.0
Average extreme maximum	15.2	51.3	33.6	8.8
Average extreme minimum	−25.8	18.5	3.4	−26.9
Average extreme range	41.0	32.8	30.2	35.8

The rise in temperature from spring to summer is pronounced. The average temperature for spring is −7.2° F., and for summer 33.6° F., a difference of 40.8°. The drop from summer to autumn and from autumn to winter is not so abrupt — from 33.6° F., in summer, to 16.5° F., in autumn and −10.9° F., in winter. The average temperature for winter is but 3.7° lower than for spring. From May to October inclusive the average range lies above zero, from November to April inclusive the average range is below zero.

A continuous, extensive, prolonged ice cover lowers the average temperature and retards the advance spring. A heavy mantle of snow upon the ice so accentuates the effect of the ice cover that a season of heavy snowfall coincident with a season of continuous ice lay results in extreme low temperatures almost or quite until May. A season of widespread open water issues a relatively mild and equable spring, cloudier and foggier than one of heavy and extensive ice. Spring and summer advance more steadily and gradually when the water is open; more belatedly and suddenly when the ice is continuous and extensive. Those differences in spring weather conditions have a profound effect upon the hunting and other activities of the Eskimo well into the following summer.

Pressure and Winds

Thule lies in a polar zone of intermediate pressure in which the barometer is relatively steady and constant. The pressure rarely rises above 30.5 inches and rarely falls below 29.0 inches. For weeks at a time through the summer months the range of pressure extends over only 0.5 inch. The pressure during the winter months is most variable with a sequence of emphatic highs and lows that suggests the procession of cyclonic areas across north temperate latitudes. Rises of pressure above average are more pronounced than decreases below. The pressure of November and December are similar in sequence and amplitude of highs and lows. February and March are almost as variable as the winter months, but April and May become more equable.

The average pressure, the average daily maximum and extreme maximum, the average daily minimum and extreme minimum, and the average daily range for the months of 1916, are indicated in the accompanying table on page 278.

The procession of monthly pressures and ranges is less uniform than that of temperatures but of seasonal pressures, more regular. From January to April inclusive the barometer rises steadily; in May, June, and July it falls steadily; rises in August and September; falls again in October; rises again abruptly from November to December, and falls abruptly from December to January.

The average pressure, the average daily maximum and extreme maximum, the average daily minimum and extreme minimum, and the average daily range and extreme range for the seasons of 1916 are indicated in the table on page 279.

The highest pressures prevail in spring, the next highest in summer, the lowest in autumn, and the next lowest in winter. The average pressures of summer and winter are almost the same. The lowest average pressures for 1916 occurred in January and July; the highest in April and December.

MONTHLY PRESSURE AVERAGES — 1916

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.'	OCT.	NOV.	DEC.
Average pressure............	29.60	29.80	30.05	30.16	30.12	29.95	29.71	29.75	29.81	29.66	29.79	30.18
Average daily maximum.....	29.70	29.90	30.02	30.30	30.22	30.27	29.80	29.83	29.92	29.80	29.89	20.28
Average daily minimum......	29.50	29.60	29.90	30.08	30.06	29.85	29.62	29.67	29.73	29.50	29.68	29.06
Average daily range.........	.20	.30	.12	.22	.16	.42	.18	.16	.19	.30	.21	.22
Extreme maximum..........	30.30	30.55	31.10	30.75	30.55	30.35	30.20	30.15	30.20	30.35	30.50	30.85
Extreme minimum..........	28.75	29.05	29.45	29.60	29.80	29.40	29.40	29.15	29.40	29.20	29.15	29.50
Extreme range.............	1.55	1.50	1.65	1.15	.75	.95	.80	1.00	.80	1.15	1.35	1.35

SEASONAL PRESSURE AVERAGES—1916

	SPRING	SUMMER	AUTUMN	WINTER
Average pressure	30.105	29.883	29.735	29.842
Average daily maximum	30.25	30.03	29.86	29.942
Average daily minimum	29.99	29.801	29.615	29.71
Average daily range	.26	.229	.245	.232
Average extreme maximum	30.925	30.312	30.275	30.55
Average extreme minimum	29.525	29.437	29.3	29.102
Average extreme range	1.4	.875	.975	1.448

The data for winds obtained from the Crocker Land Expedition are quite untrustworthy. The winds at Etah almost invariably blow down the fiord which extends southwesterly from the ice cap to the sea, no matter what the real direction of the overhead wind may be. Consequently any deductions from those data would be invalid.

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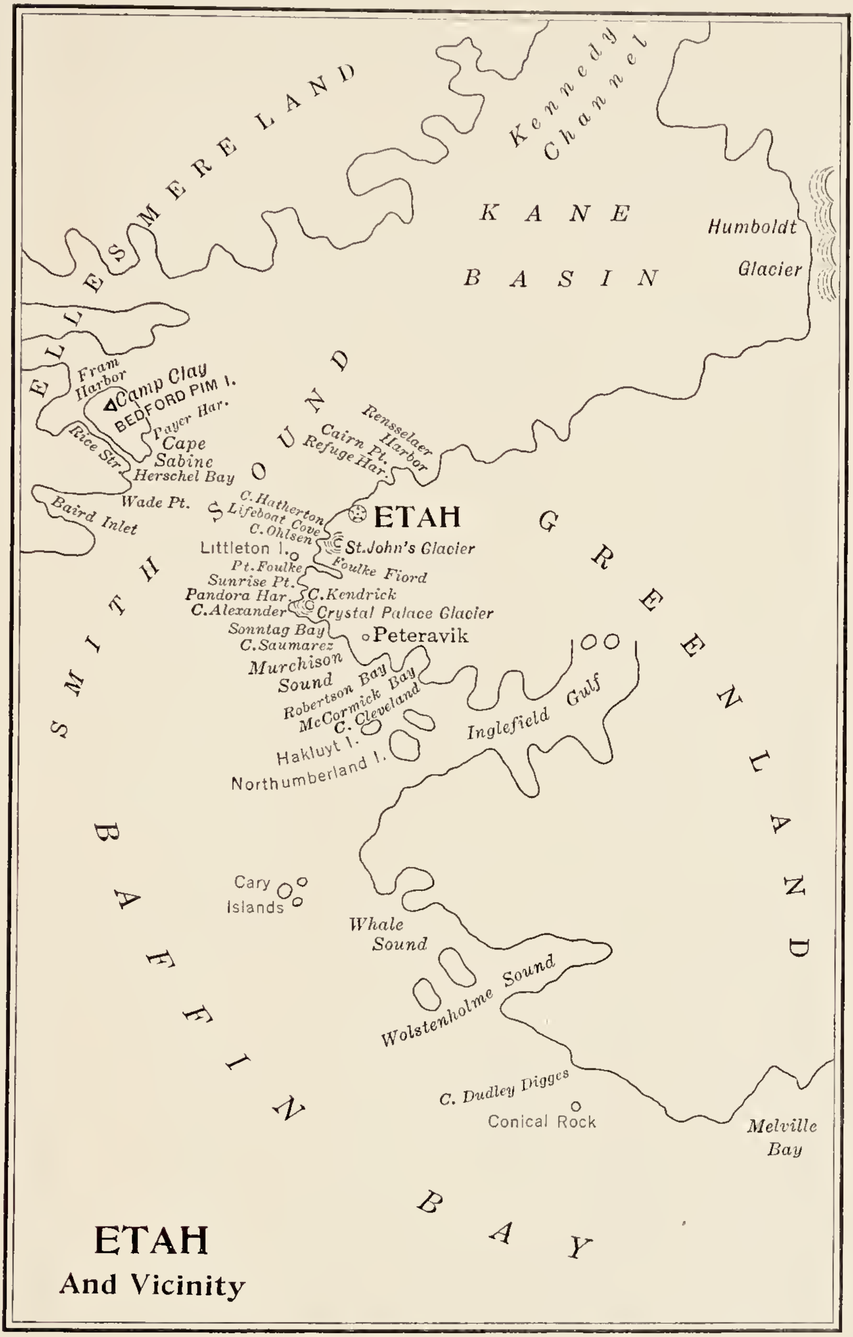
ELLESMERE LAND
Kennedy Channel
KANE BASIN
Humboldt Glacier
Fram Harbor
Camp Clay
BEDFORD PIM I.
Payer Har.
Rice Str.
Cape Sabine
Herschel Bay
Wade Pt.
Baird Inlet
SMITH SOUND
Rensselaer Harbor
Cairn Pt.
Refuge Har.
C. Hatherton
Lifeboat Cove
C. Ohlsen
ETAH
Littleton I.
St. John's Glacier
Foulke Fiord
Pt. Foulke
Sunrise Pt.
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C. Kendrick
C. Alexander
Crystal Palace Glacier
Sonntag Bay
C. Saumarez
Peteravik
Murchison Sound
Robertson Bay
McCormick Bay
C. Cleveland
Hakluyt I.
Northumberland I.
Inglefield Gulf
GREENLAND
Cary Islands
Whale Sound
Wolstenholme Sound
C. Dudley Digges
Conical Rock
Melville Bay
BAFFIN BAY
ETAH
And Vicinity

Date Due

~~T. J. BATA~~

MAR 3 0 1971

~~FEB 2 [illegible] 1974~~

MAR 6 1975

~~[illegible] 1975~~

JUN 2 9 1976

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